

University of Delaware
Disaster Research Center

MISCELLANEOUS REPORT #14

THE DELIVERY OF MENTAL HEALTH SERVICES
IN THE XENIA TORNADO

Russell R. Dynes
E. L. Quarantelli

1975

RF Project 3954²¹
FINAL REPORT

**the
ohio
state
university**

research foundation

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The Disaster Research Center
The Ohio State University

June 30, 1975

State of Ohio
Department of Mental Health & Mental Retardation
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FINAL REPORT

from

THE DISASTER RESEARCH CENTER
THE OHIO STATE UNIVERSITY

to

THE OHIO DEPARTMENT OF
MENTAL HEALTH AND RETARDATION

by Principal Investigators: Russell R. Dynes
E. L. Quarantelli

June 30, 1975

ACKNOWLEDGEMENTS

The study detailed in this report could not have taken place without the cooperation and assistance of the following:

1. The community of Xenia. Many individuals and groups helped us directly and indirectly in our study. Without their excellent cooperation the study would not have been possible, and we therefore thank them. Since information was obtained under a promise of confidentiality, a pledge which we have maintained in the report, we cannot single out by name a number of particularly helpful individuals, although most of them are aware of our gratitude towards them. However, we do want to thank in general the staff of the Greene-Clinton County Mental Health and Retardation Board, and the various mental health agencies in the community. In the midst of trying times they provided absolutely necessary access and information without which the research could not have been undertaken. Also helpful were various organizations, officials and professionals from outside Xenia who shared their post-impact experiences and insights with us.

2. The State of Ohio Department of Mental Health and Retardation. The research staff of this department is to be especially commended for having the foresight and understanding to initiate and partly support the study undertaken. They recognized the value there was in using the tragedy of Xenia to learn lessons which might help in alleviating some of the problems that will arise in inevitably future disasters in Ohio. Many communities and citizens in the state, as well as elsewhere, will be the unknowing beneficiaries of the initiation for study that was taken by a few professionals in the Division of Mental Health right after the tornado at Xenia. The financial support of the Department for part of the study reported therein is very gratefully acknowledged; combined with resources contributed by other sources, it helped make possible the total research undertaken.

3. Last but not least the staff of the Disaster Research Center at The Ohio State University, almost all of whom at one time or another were selectively and partially involved in the data gathering and/or data analysis process in the study. They worked long and hard, often contributing far beyond what their formal duties required. In some cases the assistance actually provided was of a purely voluntary nature. Center staff members who participated in the work are listed on the following page.

The study could not have been undertaken without the assistance or cooperation of all of the above. However, the opinions expressed and the interpretation of the data do not necessarily reflect the views of any, some and/or all of the above people. The description, analysis and interpretation represents our views, which may or may not correspond with those of others.

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PREFACE

After a tornado on April 3, 1974 inflicted over 1,200 casualties and left nearly half the population at least temporarily homeless in and around Xenia, Ohio, two rather rare things occurred. First of all, there was a systematic effort to deliver large-scale mental health services. Although a few other attempts to provide mental health services have followed in the wake of other recent American disasters, the effort at Xenia was almost certainly the most elaborate and organized of any ever attempted. Secondly, and even more unusual, a systematic study was made of the problems and the outcomes involved in that delivery of mental health services. For the first time, extensive and intensive research was undertaken on the context, conditions, characteristics and consequences of the mental health service delivery effort in a disaster. The pages that follow are a detailed report and analysis from the study of that effort.

In conducting this study, the Disaster Research Center (DRC) had one major objective. Our goal was to use the delivery of mental health services in Xenia as a particular case example which would throw light on more general problems of the delivery of similar services in any disaster. Thus, what follows is not a detailed, hour-by-hour or day-by-day description of the Xenia situation. Instead the report highlights those aspects that we believe might be involved in the delivery of mental health services in any American disaster, those features which would be important to know and understand if a similar situation arose elsewhere. Put in other words, we have attempted a sociological analysis of a general problem rather than a historical description of a particular event. As such, our account is selective rather than complete and is primarily analytical rather than descriptive.

Of course, to make an analysis we have had to put together enough descriptive details so that there was an adequate body of material to analyze. In the course of doing this, as DRC has found in the study of other disasters, there appeared some inconsistencies in interview and documentary data. In extremely rare cases, this was because an isolated individual or one small subcomponent of an organization attempted to conceal something from us or otherwise tried to mislead us, not recognizing that we almost always had independent sources of information on the same point. More often, inconsistencies stemmed from honest memory lapses or poor recording in the first place, facts which we were often able to establish again from other sources available to us. But by far the greatest amount of discrepancy resulted from the selective and limited perspectives which different individuals and groups often had of the same event or incident. Of necessity, most parties involved in the disaster saw it from their particular viewpoint and sometimes under the pressure of having to take some immediate action or other. They did not have the luxury we had of being able to view the situation from many perspectives and at our leisure, and with hindsight being able to assemble very many disparate pieces. In general, in the report we have generally but not specifically indicated where efforts at concealment were made and where misinformation honestly existed. And we have made a particular effort to indicate the multiple points of view that existed on certain matters since the report assumes that most persons and groups necessarily tend to see the world from their point of view, and that it is both rare and difficult to achieve an overall perspective on any given situation.

Of course the standard DRC policy of confidentiality has been applied to the relevant material in the following pages. That is, no person is ever identified by name and no quotations cited are attributed to any specific individual. Similarly, details about groups or organizations are not specifically identified unless the information is already public or easily publicly available from some source other than DRC. In a very few cases to preserve the anonymity of persons or agencies, some minor details have been left out or have been slightly altered so as to prevent identification, although care has been taken to avoid the presentation of any incorrect or misleading information. Unless otherwise indicated, all quotations, statistics and similar factual material were obtained in the course of the DRC field work; figures in particular have been independently verified against DRC sources and data.

The report consists of seven chapters and an appendix. The first chapter is background: it sets forth rather briefly the history of the organized delivery of mental health services in American disasters, the general research and analytical framework we used to study the delivery of such services in Xenia, and concludes with a discussion of the nature of the data we obtained in the study, including its limitations. Chapter II selectively describes pre-impact Xenia, the damage, destruction and disruption of community life occasioned by the tornado, and the expected as well as the actual post-impact reactions manifested by victims as well as others in the general population. The pre-impact mental health delivery service system existing in Xenia is described in Chapter III; it is seen as having evolved out of a general historical context. Chapter IV details the characteristics of the mental health delivery services attempted and provided after the tornado hit: it answers such questions as what services were delivered, how, where, and by whom. The following chapter analyzes the specific post-impact conditions, both those which arose after the tornado impact and those that were carried over from before the disaster, which lead to the kind of services described in Chapter IV. In Chapter VI we trace out at system, organizational and individual levels, some of the more salient consequences of the delivery of mental health services. The concluding chapter of the report spells out some policy implications of our study and indicates what is suggested by the research for disaster planning as well as for the pre-, trans- and post-disaster delivery of services by mental health systems. The appendix contains copies of the field instruments used.

We are trying to reach many audiences with this report. Therefore, we do not anticipate that all parts of this report will be of equal interest to all readers. In fact, we assume relatively few will read through from the first to the last page. The background of the reader, as a social or behavioral scientist, disaster planner, community official, member of an emergency operational group, therapist or clinician, mental health or social worker, potential citizen victim, etc., will undoubtedly lead to selective reading. But we do hope that it will be of some value to all, whatever the interest or selective reading.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	ii
PERSONNEL ON PROJECT	iii
PREFACE	iv
TABLE OF CONTENTS	vi
 Chapter	
I. INTRODUCTION	1
The Historical Background	
The Research and Analytical Framework	
The Concept of System	
The Concepts of Demand and Capability	
The Concepts of Context, Conditions, Characteristics and Consequences	
The Nature of the Data Gathered	
1. Interviews	
2. Documents	
3. Statistical data	
4. Participant observations	
5. Survey data	
6. Journalistic accounts	
7. Miscellaneous Sources	
II. THE TORNADO IMPACT AND THE GENERAL EXPECTATION	18
Pre-Impact Aspects of the Xenia Area	
Greene County	
Xenia	
Impact: Damage and Destruction	
The Onset and the Warning	
The Tornado Path	
Physical Results of the Impact	
Disruptions of Community Life	
Economic Disruptions	
Educational Disruptions	
Familial Disruptions	
Post-Impact Expectations	
Beliefs About Reactions	
The General Expectation	
III. CONTEXTS FOR THE MENTAL HEALTH DELIVERY SERVICES	40
Introduction	
The Ideology of Community Mental Health	
Dimensions of the Ideology	

	Ideological Attribution of Source of Mental Health Problems	
	Implementation of the Ideology	
	The Community Mental Health Delivery System in Ohio	
	The Law and Mental Health Services	
	The Law and Mental Health Social Organizations	
	Incorporation of Existing Mental Health Programs and Groups	
	The Greene County Community Mental Health Delivery System	
	The Pre-1968 Situation	
	The Post-1968 System	
	Trends in the Delivery of Community Mental Health Services	
	The Trend Towards Comprehensiveness	
	The Diminishing Saliency of Other Groups Providing Mental Health Services	
	The Time One System	
IV.	CHARACTERISTICS OF THE MENTAL HEALTH DELIVERY SERVICES . . .	69
	System Responses to Stress	
	An Organizational Typology	
	The Short-Run Response	
	The Immediate Emergency Period	
	Initial Planning	
	Attempts at Implementation	
	The Role of the 648 Staff	
	The Role of the 648 Board	
	The Longer-Run Response	
	The Emergent Groups	
	The Established Organizations	
	Peripheral and Other Organizations	
	The Time Two System	
V.	CONDITIONS FOR THE MENTAL HEALTH DELIVERY SERVICES	122
	The Possible Conditions	
	The Explanada	
	The Explanatia	
	Preconditions	
	Endogenous Preconditions	
	Structural Aspects	
	Pattern of Structural Differentiation	
	Location and Distribution of Authority	
	Degree of Integration	
	Normative Aspects	
	Diversity of Means	
	Hierarchy of Priorities	
	Prevailing Assumptions	
	Dynamic Aspects	
	Exogenous Preconditions	
	Supplier of Resources	
	Regulatory Agencies	
	Users of Services	
	Competitors	

Postconditions

Endogenous Postconditions

Structural Aspects

Pattern of Structural Differentiation

Location and Distribution of Authority

Degree of Integration

Normative Aspects

Diversity of Means

Hierarchy of Priorities

Prevailing Assumptions

Dynamic Aspects

Exogenous Postconditions

Supplier of Resources

Regulatory Agencies

Users of Services

Competitors

VI. CONSEQUENCES OF THE MENTAL HEALTH DELIVERY SERVICES 178

Introduction

Consequences for the System

The System Involved

Major Areas of Consequences

System Components

System Coordination

System Domain

System Autonomy

Consequences for the Victim Population

Conceptualization and Measurement of Effectiveness

Demands

Needs

Operational Indicators

Data on Needs and Demands

Mental Illness

Demands

Needs

Mental Health

Demands

Needs

Problems of Children

Problems in Living

Demands

Needs

The System's Effectiveness

VII. SOME IMPLICATIONS OF THE STUDY 241

Demands and Needs

Capabilities and Responses

Who?

What?

For Whom?

Where?

How?

When?

Planning

Pre-disaster
Trans-disaster
Post-disaster

APPENDIX

A. Organizational Activity Interview Guide	252
B. Personal Activities Interview Guide	259
C. Mail Questionnaire for Volunteers	264

REFERENCES	271
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I. INTRODUCTION

This chapter sets forth: a) a brief history of the organized delivery of mental health services in American disasters; b) the general research and analytical framework we used to study the delivery of such services in Xenia; and c) the nature of the data we obtained in the study, including their limitations.

Our study is focused primarily on the organized delivery of mental health services rather than on the users of the services as such. Consequently, this chapter first sets forth in a brief fashion a history of the organized delivery of mental health services in American disasters. A basic theme is that systematic efforts to provide these kinds of services to disaster victims is a very recent phenomenon. It is something that has emerged only in the last several years. Another basic theme is that very little research at all has been undertaken on the provision of mental health services in disasters. We thus attempt in the first part of the chapter to provide a general background against which can be understood what was specifically attempted by way of services in Xenia, and also the kind of pioneering research we therefore were forced to undertake in the same situation.

The second part of the chapter explains the research and analytical framework we used. Three basic sets of ideas guided our data gathering and analysis. We visualized the delivery of mental health services in the Xenia area as being the behavior of an overall system, rather than separate activities carried out by a number of different organizations. This system is made up of parts, i.e., of an interrelated set of groups and agencies. We assumed that this system usually has a demand-capability balance. That is, there are demands for services on this system which are met, more or less, by system resources (such as materials, funds, information and personnel). In normal times, therefore, the existing mental health system has certain characteristics and consequences resulting from particular contexts and conditions. These are all related to the relative balance in the system. However, this balance is changed by a disaster. The historical context and immediate conditions at the time of a disaster affect the demand-capability balance. A changed balance in turn influences the characteristics and consequences of the mental health services delivered. We have different behavior in the system after a disaster as compared to before a disaster. Thus, in the second part of this chapter we set forth our basic analytical and research framework: we looked at the demand-capability balance of the Xenia mental health system and how it was so affected by the specific context and conditions of the tornado such that it led to somewhat different characteristics and consequences in the delivery of mental health services after the disaster.

The last part of the chapter discusses the nature of the data we obtained in our study. A substantial amount of information was collected by a variety of means ranging from in-depth open-ended interviewing of organizational personnel to monthly statistical surveys of case work loads of different mental health agencies. While most of the data are about the delivery

of mental health services, we were able to obtain a fair amount of information also about the potential and actual users of the services. There are some weaknesses in certain portions of the data. However, the information obtained surpasses by far, quantitatively and qualitatively, any previously gathered on the delivery of mental health services in a disaster.

The Historical Background

Disasters have always occurred and subjected their victims not only to material losses, but to social disruption and psychological stress and strain as well. In fact, it is widely believed among disaster planners, community officials, and the public at large that human beings do not react too well in the face of large-scale dangers and threats (for documentation of these beliefs, see Quarantelli and Dynes, 1971; and an extensive survey by Wenger et al., forthcoming). Among widespread beliefs are that hysterical breakdowns and psychotic episodes are often triggered by disasters and that post-impact aftermaths frequently involve numbing and serious emotional disorders. The imagery is essentially that disasters exacerbate or create mental illness.

This public image is strongly supported by news stories such as those played up in a national news magazine after a series of major disasters in 1973. It noted that after the

first surge of activity is over, another reaction sets in -- this one a kind of shared psychosis that hits just about everyone affected directly or indirectly by the event.

The story then goes on to note that

a few weeks after a catastrophe, symptoms of emotional problems become disturbingly obvious: the number of successful suicides rises by about a third, hospital admissions for psychiatric reasons run at double the normal rate and the frequency of accidents skyrockets (The Crisis Doctors, 1973:62).

Furthermore, journalistic sources are often able to cite some professionals who also share these views. Thus, in a recent article developed from a paper given at an American Psychological Association Symposium, it is stated,

Disasters . . . unleash powerful behavioral reactions and emotions which often are overwhelming . . . it is clear that disasters demand new ecological balances to be established between man and his environment since it has been repeatedly demonstrated that the loss of life's familiar benchmarks induces intense stress leading to physical and mental illness (Schulberg, 1974:77).

Even when no pathological symptoms are manifested, the position is often maintained. Thus, in a restatement of a position developed about two decades ago (e.g., Wolfenstein, 1957) it is said,

Even when there has been no loss of human life, one can expect a predictable sequence of such behaviors as shock, guilt, anger, and grief to occur among affected persons over a six- to 12-month time period. A disaster victim's failure to display these normative reactions should not lead to the conclusion that all is well; instead, it should alert the caregiver that the victim potentially is employing maladaptive resolutions (Schulberg, 1974: 85).

However, these general guesses and speculations about the pathological afterreactions of disasters have not been empirically supported by other than anecdotal examples. Research in the last two decades by DRC (Quarantelli and Dynes, 1972) and by others (e.g., Bates et al., 1963; Marks et al., 1954; Luchterhand, 1971; Bramson, 1972; Zusman et al., 1973; Drabek et al., 1973; and Hall and Landreth, forthcoming) have generally found a rather different picture. Very few people break down in the face of major disasters, and incapacitating psychological reactions are actually rare phenomena in catastrophes. Mental illness on any scale is not a major consequence of even great disasters; it apparently is not also a result of other kinds of very stressful situations, such as large-scale air raid bombings (for documentation, see Janis, 1951).

Nevertheless, few would deny that victim populations undergo considerable stress and strain, and that they exhibit varying degrees of concern, worry, anxiety and the like in pre-, trans- and post-disaster time periods. In the face of serious threats and dangers to life, property, and other important values, and the disruption of personal and social routines, these are quite reasonable and rational responses. Only someone out of contact with reality will not respond with some affect when directly threatened or endangered. Disasters may not create mental illness, but they do undoubtedly affect mental health.

However, neither the mythological belief of mental illness nor the actual existence of mental health problems has so far had much impact on either the organized preparation for and/or the response to disasters. Organized effort is almost exclusively directed towards insuring that victims are provided with food, clothing, and shelter in the short run, and that property and physical facilities are restored in the long run. That there might be difficulties in personal behavior and social life is often recognized but has not generated conscious and organized efforts to deal with such matters. A recent DRC study of emergency planning in 12 cities around the country shows that mental health is not visualized as a problematical issue which ought to be addressed by disaster plans and preparations (Dynes, Quarantelli, and Kreps, 1974). Almost all of the emphasis is on measures of physical protection, the material restoration of community, and the like; mental health problems at best are noted in passing only as factors that might hinder the effective issuance of warnings, create difficulties in evacuations, restrict

or limit agency decisions that might be made, etc. The only exception appears to be in Columbia, South Carolina where in 1973, for the first time anywhere, a detailed plan for dealing with "psychiatric casualties" in disasters was developed between a community mental health center and a local civil defense office (see Gold Award, 1974).

In the past, only a few private relief welfare agencies such as the Red Cross, and some religious groups, particularly the Salvation Army, have considered the mental health problem as one toward which some systematic effort should be directed. The Salvation Army, for example, has long seen as one of its functions in responding to disasters the providing of "spiritual comfort" (see Ross, 1969). However, it would appear until recently that even the majority of religious groups seldom made an organized effort to provide organizational services, leaving it up to individual pastors, rabbis or priests to offer as individuals, psychological support or otherwise counsel or console disaster-impacted victims. Most other organizations involved in disasters either assume mental health problems are the responsibility of someone else or simply do not see how the problems might be handled.

Apropos of this, DRC less than seven years ago studied a hospital in a major disaster where the chief of staff observed that the major question he had to resolve was what to do with dozens of psychiatrists who volunteered their services to the hospital. He noted that he was puzzled "on how to tell dozens of physicians that their skills were of no use in the situation." While this is simply an anecdotal example, it does illustrate the general tendency to overlook any attempt to respond in an organized fashion to mental health problems in disasters.

However, this kind of general orientation started to change in 1971-1972. In the wake of a series of disasters those years (all studied by DRC), there were for the first time, conscious and organized efforts to deal with the mental health problems of the impacted population. In varying degrees, this was noticeable in San Fernando, California after the earthquake, in the Wilkes-Barre, Pennsylvania and the Corning, New York areas after the flooding from Tropical Storm Agnes, around Buffalo Creek, West Virginia in the aftermath of a "dam" rupture, and in Rapid City, South Dakota after the flash flood.

In Wilkes-Barre, for example, teams of mental health workers visited evacuation centers to deal with the immediate problems of victims, and Project Outreach was established some weeks after the flood to "reach out" to flood-impacted individuals by providing them mobile mental health services, emphasizing prevention and early intervention to prevent long-term disabilities. Counselors provided direct supportive therapy and assisted victims in getting aid from other agencies (Heffron, 1973). In this and the other disasters mentioned, mental health services were offered and given by existing and emergent organizations and groups.

For our purposes we need not concern ourselves in detail with the question why in 1972 some systematic attention was suddenly being paid to the mental health of disaster victims. In part, this undoubtedly was one of the consequences of the success of the mental health movement in this

country (see Bloom, 1973 for an analysis) helping to bring about the enactment of Public Law 88-164 -- the Community Mental Health Centers Construction Act -- on October 31, 1963. As a result of that and subsequent legislation, mental health centers or organizations and programs were established in many American communities. Particularly important is that one of the distinguishing characteristics of community mental health practice is the notion of crisis intervention. Interest in crisis intervention apparently is traceable to the seminal work of Lindemann (1944, 1962) who played a very active role in providing psychiatric help to the surviving victims of the Cocoanut Grove night club fire. In the last three decades as Taplin's (1971) review of the literature on psychological crises shows, the notion of active intervention has taken deep roots in the ideology of the community mental health movement. It is not surprising therefore that when the 1971 and 1972 disasters hit, implementation of the notion of crisis intervention by local mental health agencies was attempted in different communities.

Whether this explanation is either a full or a totally valid one is less important than the indisputable point that around 1970 the first major organized efforts to deliver mental health services in disasters can be observed. Practitioners in the field were and are, of course, considerably handicapped by a lack of knowledge about mental health problems in disasters and the difficulties that might be involved in providing services. There are no organizational model plans and few explicit guidelines for role behavior, especially by paraprofessionals, in disaster types of situations. If those involved in trying to provide mental health services in disasters had turned to the literature in the area, they would have obtained little guidance.

An examination by DRC of some of the theoretical (e.g., Wechsler, Solomon, Kramer, 1970; and Golann and Eisdorfer, 1972) and practical (e.g., Parad, 1965; Carkhuff, 1969; and Aguilera and Messick, 1974) literature in the mental health area, as well as all issues from 1965 to 1974 of the Community Mental Health Journal and the Mental Hygiene journal, uncovered almost no discussions about any aspects of mental health services in disaster kinds of situations. There are only scattered references here and there that have any great relevance to the area even if marginal writings are included (e.g., Tuckman, 1973, which deals with a school bus being hit by a train). The few discussions that exist elsewhere are, in fact, mostly about the characteristics of mental health problems in disasters rather than about delivery services (see e.g., Tyhurst, 1957; Moore and Friedsam, 1959; Perry and Perry, 1959; Fritz, 1961; Leopold and Dillon, 1963; Farber, 1967; Lifton, 1970; Koegler and Hicks, 1972; Church, 1974, 1974; Kliman, 1973 and Michael, 1974). The even scantier references to disasters outside of the United States (e.g., Lacey, 1972; Infantes et al., 1970) also focus on the problematical characteristics manifested by victims and do not deal with either the nature of the services they were offered or the problems involved in providing them.

A few references do deal with limited aspects of service delivery (e.g., Weil and Dunsworth, 1958; Shader and Schwartz, 1966; Harshbarger, 1973; Birnbaum, Coplon and Scharff, 1973; and Michael, n.d.). To the extent that delivery of mental health services is discussed or implied, it seems that

there is often a tendency to assume that in disasters it is possible to operate with notions derived from everyday crisis intervention. As Caplan (1964) and others have pointed out, among other things this orientation involves frequent contacts with those being aided, emphasis on contemporary realities rather than historical antecedents of difficulties, rapid clinical assessment, use of paraprofessionals, and helping those receiving aid to deal positively with the current situation rather than attempting to achieve a personality reorganization (see, e.g., Caplan and Brunebaum, 1967). But the degree to which these procedures and measures are actually and consistently followed in disaster situations was, before the present study, mostly a matter of speculation rather than of evidence.

There is also an implication from the mental health literature generally that two somewhat contrasting conceptions of delivery services might possibly be involved. Various writers use different labels but the two views, in ideal type terms, are perhaps best characterized by Schulberg and Baker as "the medical practice model and the human services model" (1970: 438; see also Leininger's 1971 roughly parallel distinction between hospital-centered versus community-centered programs). Assessment of effectiveness and efficiency would depend in part on the model assumed and/or implemented. The few clinical and anecdotal accounts of mental health services in disasters hint at greater use of the latter rather than the former model. However, only systematic research as attempted in the present study will uncover the dominant pattern and allow attempts at appropriate evaluative analyses.

Nevertheless, with the onset of the organized delivery of mental health services, a few evaluative studies on specific problems have already been undertaken. The major one headed up by Jack Zusman examined the structure, process, and to a limited extent, the outcome of the Outreach Program developed after the Wilkes-Barre flood (see Zusman et al., 1973). Blaufarb and Levine (1972) and Howard and Gordon (1974) looked at the crisis intervention techniques used in one clinic setting to help families deal with the traumatic events experienced in the 1971 earthquake in San Fernando. However, none of these studies, nor any elsewhere that we are aware of, have attempted to describe and analyze within a social scientific framework the full range of organized mental health services offered or provided in a given disaster. Therefore, as far as we can ascertain, the DRC study in Xenia, Ohio, initiated in June 1974, represents the first attempt to systematically examine the overall delivery of mental health services in a given community after a disaster and while that delivery was in progress.

Thus, the afterreaction to the Xenia, Greene County tornado was very unusual in two respects. As we shall document later, a massive effort was made to provide organized mental health services after the disaster. As far as we can judge, this effort was almost certainly the greatest ever made anywhere up to that time. But it was done and attempted by people and groups who had, for reasons just indicated, very little to guide them either by way of prior practical examples or systematic scientific research. And as researchers we too had few guidelines to help us in what also turned out to be the largest research effort of its kind up to the present.

The Research and Analytical Framework

There are a number of possible points of attack on the problem of the delivery of organized mental health services in disasters. All have disadvantages as well as advantages; there is no one way which fully answers all questions and exhausts all data. We chose, as already indicated, to start with the notion that the delivery of services involves the behavior of a mental health system.

The Concept of System

The concept of system in general system theory (Bertalanffy, 1968) implies there is a whole which can not be understood by simply looking at the individual parts (Berrien, 1968). Obviously implied also is the notion that there are parts or elements which are related but not necessarily integrated in some way (Buckley, 1968). Furthermore, it is usually assumed that the whole has to adjust continuously to factors external to itself -- the environment -- as well as to its own internal dynamics or interrelationships between parts (Lawrence and Lorsch, 1969). Thus, our starting perspective was that the delivery of mental health services in Xenia in Greene County, Ohio was provided by a system -- but the nature of the whole, interrelationships among parts, and the dynamic adjustments, however, were to be established by study rather than to be taken as given. In other words, beyond the existence of a mental health system in Xenia, we assumed very little else.

We came to use the general system perspective for a number of different reasons. For one, it is a point of view which has come in recent years to guide a wide range of scientific theory and research. The biological and psychological sciences (Miller, 1965) as well as the social sciences (Buckley, 1967) have increasingly conceptualized their basic phenomena in systemic terms. In fact, the general system approach has been applied to a range of collective social behavior from bureaucratic organizations (Thompson, 1967) to emergent groups (Klapp, 1973). Looking at organizations as open, general systems is certainly rather standard in sociology today (Haas and Drabek, 1973), although less often have complexes of groups or organizations been viewed as a system as we did in our study.

However, there has been a tendency in the community mental health area itself to use a wider referent than single organizations for the term system. The concept of system has been increasingly used in the mental health literature, for instance, to refer to clusters of agencies involved in the delivery of community mental health services. This can be partly illustrated by noting the titles of four different articles that have appeared recently in the Community Mental Health Journal: "The evaluation of state-wide mental health programs: A system approach" (Levy et al., 1968); "System analysis and mental health services" (Hutcheson and Krauss, 1969); "The care-giving system in community mental health programs" (Schulberg and Baker, 1970); and "Social service delivery systems at the community level" (Holland and Huntton, 1974). Unfortunately, much of this literature implies that the mental health

system consists of the community mental health center and those organizations which it coordinates in some formal manner. In actual fact, what is or is not part of a delivery system is a problematical matter to be ascertained by research rather than established by definition. As we shall see, the boundaries of the mental health delivery system in Xenia, as indicated by response, extended beyond the local mental health center and directly and formally related groups.

Previous DRC research had suggested the necessity and the value of thinking of the delivery of mental health services as a system response. Thinking of any relevant response as a part of a system response forces one to consider all elements that might be involved in providing a service, and not just self-selected or formally designated elements. For example, the National Weather Service as part of its legal responsibility issues warning messages about certain kinds of disasters in American society. However, there is considerable variation in the actual warnings that get to the general public. This is because different mass media components (as well as certain emergency organizations) play a crucial role in the transmission and interpretation of such messages, delaying, selecting and screening out many (McLuckie, 1970). Thus, to understand the delivery of warnings it is necessary to go beyond the activities of the National Weather Service, the self- and legally-designated entity for issuing warning messages. Clusters of other organizations, not formal parts of the warning process, are involved. Treating any delivery of services as a system rather than organizational response insures that some attention will be given to all social entities that might be involved in the delivery of such services, whether this is formally or otherwise recognized.

Furthermore, as other DRC research has also shown, the efficiency and effectiveness of whatever the response may be is considerably dependent on how well the system that is involved (be it medical, political, etc.) responds as a whole. Take, for example, how well medical casualties are handled in a disaster. This is less a consequence of how well individual hospitals may be prepared than it is of how capable the community medical care system as a whole is in preventing a disproportionate distribution of large masses of casualties to only two or three hospitals within the local system. The relationship between the different subunits or clusters of the system, which is a system property, is what makes the difference (for a general descriptive analysis of hospital responses in disasters, see Quarantelli, 1970; for an analytical treatment, see Taylor, 1974).

In a later chapter we note the overall structure of the mental health delivery system that had evolved in the Xenia area including Greene and nearby Montgomery counties. As a result of a certain historical context, a particular pattern of authority, division of labor and integration prevailed prior to the tornado. Policies were set and decisions made at only some points in the system. The different organizations and groups that made up the system had of course also evolved a particular division of labor. Different tasks were carried out by different subcomponents. Finally, the various parts of the system were linked and related to one another in distinctive ways as a result of their histories of interaction. Thus, when the tornado hit Xenia, there was an interrelated mental health delivery system with a certain pattern of authority and a particular division of labor.

This of course does not imply full, harmonious integration, centralized control or a clear-cut division of labor. In fact, what we found in Xenia was considerably less than that: for example, certain individuals and groups responsible to a variety of organizations delivered mental health services, not always labelled as such, rather independently of the main cluster of agencies engaged in coordinated delivery of designated mental health services. We discovered, for instance, that some physicians provided limited counseling, drug therapy and other treatments which they did not define as the giving of mental health services. Furthermore, most of these physicians had no formal ties with the Greene County Mental Health 648 Board, the official mental health coordinating agency in the community. Yet these and similar kinds of activities, from an analytical point of view, need to be recognized as some of the mental health services delivered, and the entities involved (persons or groups) as part of the mental health system in the community. The efficiency and effectiveness of the services delivered after the tornado in Xenia were somewhat affected by the lack of integration between some parts of the overall system.

The Concepts of Demand and of Capability

To some extent, our remarks in the last few pages actually involve a second set of theoretical ideas, specifically the concepts of demand and of capability. These concepts are of course not original with us. But they are ideas deeply rooted in DRC research, being among the first used in our earliest studies (see e.g., Haas and Quarantelli, 1964).

To the extent that systems persist there is a relative balance in their demand-capability ratio. All open systems are subject to demands. The demands are usually a combination of actual and perceived requests or commands for actions, services or whatever the system is providing. Systems attempt to meet demands by their capabilities. The capability of any given system consists of the resources (i.e., materials, funds, information, and personnel) that could be mobilized to meet the demands. Thus, if the demands and capabilities are in relative balance -- and they are never equal even in normal times -- the system persists. If the ratio gets too unbalanced for whatever reason (e.g., too many demands and/or too few capabilities), the system will be disrupted and eventually collapse as a functioning entity (for a discussion of organizational rather than system death, see Haas and Drabek, 1973:290).

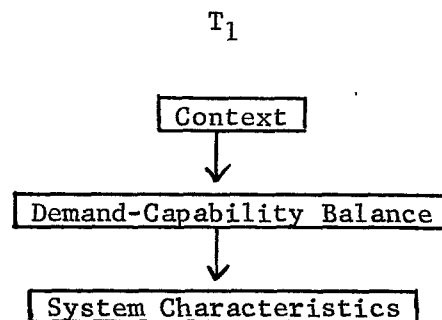
In our particular study, we examined what the pre-impact demand-capability ratio was in Xenia. That is, we looked at what demands for mental health services existed in the community prior to the disaster. We also established what capability the system had by way of resources. The very existence of a functioning system in Xenia was an indication that there was some balance between demands and capabilities. However, as it happened, both demands and capabilities were in rapid flux in the weeks just prior to the disaster with significant effect upon the mental health services which the system was able to provide after the tornado hit. But when the disaster occurred, there was a relatively balanced demand-capability ratio in the mental health delivery service system in the Xenia area.

Thus, our general theoretical stance was to assume we had an ongoing mental health delivery system in Xenia which was subject to demands which were more or less balanced by existing capabilities. A major question we wanted to answer, therefore, was: What happened to this system when both the demands and capabilities were changed by the tornado? In an extreme stress situation, what happens, and what influences what happens to a system? To answer that, we had to use a third set of theoretical ideas.

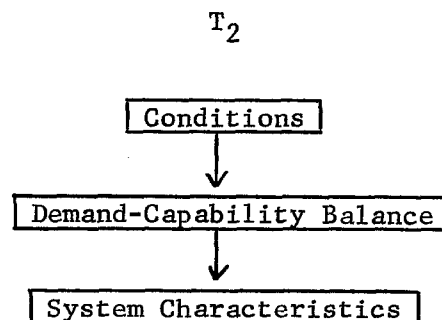
The Concepts of Context, Conditions, Characteristics and Consequences

To understand the dynamics of a system under stress as a result of a disaster requires the examination of other aspects besides those already discussed. They include phenomena caught by the concepts of context, conditions, characteristics and consequences (see Quarantelli, Weller and Wenger, forthcoming). The bulk of this report, in Chapters IV through VII, elaborates upon and illustrates these concepts as applied to the Xenia situation. Therefore, at this point we will merely introduce the concepts generally and simply indicate the questions they allowed us to ask in our data analysis.

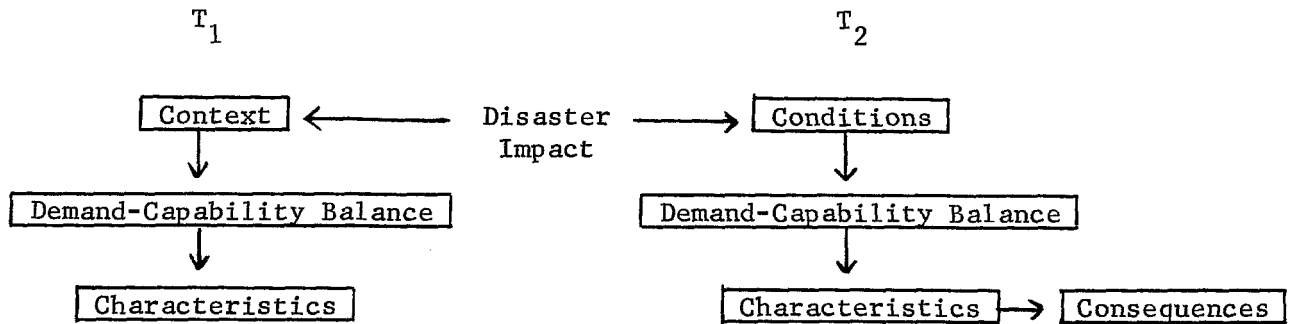
Among other things, it is necessary to make a time distinction between the system in the pre-impact or Time One period (T_1) and in the post-impact or Time Two period (T_2). The demand-capability ratio or balance of a system in Time One and its prevailing characteristics are the result of the general historical context from which it has evolved. Graphically, we can depict this as follows:



The impact of a disaster provides particular conditions which affect the demand-capability ratio of a system and the resulting characteristics of the system in Time Two. This can be graphically depicted as follows:



In addition, a disaster not only presents immediate particular conditions under which a system operates but of course also effects the pre-impact context. Furthermore, the resulting behavior of the system in Time Two has certain consequences. These ideas can be depicted graphically as follows:



This model, when applied to the Xenia, Greene County situation, led us to ask the following questions:

1. What was the general context that influenced the delivery of mental health services in Xenia? In general, this has reference to pre-disaster or Time One factors. We attempted to ascertain what historical developments and how the larger social setting contributed to the kind of local mental health delivery system which existed just prior to the tornado.
2. What were the particular conditions that affected the delivery of mental health services in Xenia? This has reference to post-disaster or Time Two factors existing in the situation. Our interest was in establishing the combination of local and extra-local matters that influenced the response system after disaster impact.
3. What were the characteristics of the mental health services delivered in Xenia? What were the actual or specific observable features of who did what? We wanted to know which parts of the system provided what services.
4. What were the consequences of the delivery of mental health services in Xenia? Were there certain outcomes or results from the services provided? Our concern was in identifying the short- and long-range effects of the system response for the system itself, its organizational parts and the people serviced.

The questions above are set forth in their chronological order as the phenomena appear in the world and as we treated them in the data analysis. A general context provided the background for particular disaster-induced conditions, which by altering the demands and capabilities of the system in Xenia led to the appearance of specific characteristics, which in turn had certain kinds of consequences. However, since it is difficult to examine factors leading to or from something, unless that "something" is identified, we do not follow the exact chronological order in the analytical chapters. We first discuss the context of the delivery of mental health services in Xenia. This gives us some understanding of the system that

existed in Xenia just prior to the tornado in Time One. However, we then detail the characteristics of the mental health services delivered in Xenia after impact and the behavior of the system under stress in Time Two. We follow this with a discussion of the post-impact conditions, showing how these affected the characteristics which the system in Xenia manifested in Time Two. We conclude the analysis by looking at the consequences of the behavior for the system itself, its organizational parts and the people it serviced.

The Nature of the Data Gathered

We obtained a substantial amount of information in our data-gathering efforts during a period of about a year. The close proximity of Xenia to the DRC location in Columbus, Ohio considerably facilitated this extensive data gathering. Three DRC staff members were in Xenia four hours after impact and spent most of the night observing the local emergency response. Since that first visit and until the writing of this report, DRC personnel in dozens of trips put in over 1,500 hours of field work alone in and around the community (or a total of more than 187 regular working days in the field). Even greater amounts of time have, of course, been spent on data processing, analysis and report writing.

Data were obtained seven general ways. The major ones were:

1. Interviews

A total of 309 mostly open-ended, in-depth interviews were obtained with personnel in over three dozen different groups and organizations. Almost all of the interviews were tape-recorded and a fair number were transcribed. Average length of the interviews was about two hours, except in the case of key informants where they ranged between six to eight hours, usually spread out over two or more sessions. In order to obtain longitudinal or long-run data, some persons were reinterviewed a number of times, in a few cases as many as ten times in the 12-month, Time Two period of the research.

Our greatest interest, of course, was in members of mental health or mental health-related organizations primarily but not exclusively in Greene County (the location of Xenia) and Montgomery County (adjacent to Xenia, and the location of Dayton, Ohio). Interviews were conducted with organizational personnel in, for example, mental health centers, family service associations, outreach programs, religious groups, senior citizen agencies, etc., and with individuals in positions ranging from executive directors to social workers, from psychiatrists to volunteer telephone aides. However, we did interview persons also in local agencies and groups not directly involved in the delivery of mental health services such as courts, police departments, financial institutions, social welfare agencies, public health departments, recovery planning groups, ambulance services and the like. Most of them were selected on the basis of possible indirect involvement in or knowledge of the mental health delivery service system. In addition,

about ten percent of the interviews were with organizational personnel from outside Greene and Montgomery counties, but who participated in some way in the effort at delivering mental health services in the Xenia disaster.

Different types of interview guides were used, depending on whether the person interviewed was treated as a respondent or informant. Respondents were generally asked to report and describe their own actions, attitudes, perceptions, etc., in their work and related behavior. Informants, instead, were used to obtain overall information about organizational structures, functions, problems, interrelationships, as well as community and other social phenomena of which they were knowledgeable (for the informant role in interviews see Dexter, 1970). The same individual, of course, could have been, and in a number of cases was, interviewed both as a respondent and as an informant. Examples of interview guides used in the field research are presented in the Appendix of this report.

The quality of the interview data was very high. While two or three persons interviewed provided only nominal cooperation, the majority of individuals went out of their way to give detailed information, and only one official flatly refused to be interviewed (in this case, most of the necessary information was easily gained from other sources in the same agency). Most persons were quite frank and candid in their remarks, not hesitating to name names and to indicate conflicting viewpoints.

2. Documents

Several hundred documents were collected from about three dozen organizations. Again mental health and mental health-related agencies in the system in Xenia were the major foci of attention. Among the kinds of formal documents obtained were: annual reports, disaster plans, organizational charters and articles of incorporation, legislative and executive acts and orders establishing groups, written agreement with other organizations, manuals for staff personnel, tables of organization, application forms and handouts for clients, lists of criteria for qualification for services, financial and budget statements, after-action reports, logs, and minutes of meetings. In addition, a certain number of informal documents were also collected including unofficial and intraagency memos, off-the-record letters, handwritten notes, etc.

The documentary data obtained was somewhat uneven in quality. Two reasons accounted for this. Some organizations, whether in Time One or Time Two, simply had very poor record keeping procedures. It was the very rare organization that had written documents for almost every major official action taken. Many although not all of the new groups that emerged in Time Two kept few records of their early operations, as might be expected, but even some old, well-established organizations did not always document in writing some of their most important activities. Along another line, certain formal documents seemed sometimes assembled for purely public relation purposes and bore little relationship to what actually happened or was going on, although such documents were not necessarily factually inaccurate. In a rare instance or two, we found some information in a document simply not corresponding to what we know to be the case from other more reliable information available to us.

However, as far as we are able to judge, we did obtain copies of all existing documents which we sought. Furthermore, the bulk of the documentary material that could be compared with data from other sources did prove reliable. The unevenness in the quality of the documentary material was more in the absence of some material rather than in inaccurate documents as such.

3. Statistical data

A major effort was made to obtain as much mental health-related statistical data as possible. By this we mean statistics on such matters as agency case loads; aggregate data on clinical and medical records and from case histories; police and health department figures on illness, accident and suicide rates; school attendance and disciplinary problem figures; and any quantitative measures that could possibly be taken (or have been suggested) as indices of mental health problems. We particularly attempted to get longitudinal or long-run data, going back as far as a year before the tornado, as well as the 12 months in Time Two afterwards. Our hope was to obtain relatively objective measures of changes in the demand-capability inputs into the local mental health system.

While we obtained perhaps several dozen sets of statistics, our general effort was only partly successful. There were three reasons for this. First of all, statistical data were just not assembled by a number of organizations in the mental health system we studied. Either because of their small size or lack of tradition or degree of professionalization, many groups simply did not have quantitative figures on matters in which we had an interest. Secondly, some groups did have statistics but they were obviously incorrect, either because they were assembled too long after the fact, or in one or two cases because public figures were inflated to show the organization in a good light. Thirdly, some of the longitudinal statistics we were interested in obtaining had not yet been completely assembled by the collecting agencies at the time our field work ceased in Time Two.

On the other hand, we were able to find solid statistical data in some cases. We did have to put in considerable effort in certain instances in locating little known data in obscure sources; in other situations, in order to obtain the data we had to assure an even greater degree of confidentiality than is standard DRC procedure for sensitive material. But such statistical data were among the most valuable information we obtained in the study.

4. Participant observations

DRC staff members attended as observers more than 100 public and private organizational meetings. These ranged from monthly and weekly meetings of local community mental health and social service agencies to training and debriefing sessions for mental health workers. In instances where it was relevant and accepted, tape recordings were made of the meetings; otherwise, DRC field workers wrote up synopses and summaries about the participants and contents of the meetings.

While some of the meetings proved to be extremely valuable for understanding what was occurring, many in retrospect did not prove very directly useful for the DRC research purposes. Often the substantive information that was obtained was available in greater detail from other sources. On the other hand, the presence of DRC staff members at such meetings helped greatly to legitimize the DRC research interest in the system and in the community, and enabled the making of personal contacts which later considerably facilitated the obtaining of interviews, documents, or statistical data. Without participant observations at the meetings, these other sources of information would have been far less accessible.

A few meetings that might have been worthwhile attending were missed. Most of those we missed occurred in the days right after the tornado before our focus on the delivery of mental health services and this particular study was formalized. In a few instances, practical contingencies of time made a DRC presence at particular meetings impossible.

5. Survey data

When we launched our study of the delivery of mental health services in the Xenia tornado, we did not anticipate being able to obtain any direct data from the tornado victims or the general population affected. An epidemiological survey seemed out of the question because of the personnel and funds that were required to conduct such a large-scale study in any meaningful way. We recognized the considerable desirability of obtaining information from the actual and potential users of mental health services, as well as from the perspective of the caregivers in the system, but did not see the getting of such data as a practical possibility.

However, a chance to conduct a systematic epidemiological survey arose as a result of the interest of the Xenia Area Interfaith Council, an organization in the local community which had emerged to help disaster victims with their personal and social problems. Four to five months after the tornado, the Interfaith group was interested in ascertaining the attitudes and views of the population in Xenia regarding long-run problems stemming from the disaster, and how Interfaith could best serve the community in the future. They established contact with DRC and out of that arose a joint cooperative effort. Interfaith provided substantial personnel (e.g., about 150 interviewers) and facilities for conducting an interview survey in exchange for DRC designing a questionnaire, training the interviewers, drawing up a systematic sample, and coding and processing the information obtained. A random sample of seven and one-half percent of the households in the Xenia area, or 837 respondents, was drawn. Sixty-four percent of these interviews were completed in personal contacts, and an additional eight percent were later added via a shorter mail questionnaire, resulting in data being obtained from 72 percent of the original sample or a total of 600 respondents. The formal interview schedule was rather extensive and consisted of from 20 to 100 detailed questions (depending on the degree of the respondent's involvement in the disaster), and generally took over an hour to complete. The survey covered a wide variety of topics which will be reported in other DRC publications, but some data from the following areas will be discussed later in this report: Needs for services, the

kinds of services obtained from what organizations, reactions toward different groups giving aid, detailed physical and mental consequences of undergoing the tornado, perception of behavior of children, and attitudes regarding self, others, the community and life in general in both the Time One and the Time Two periods.

In addition, DRC was also able to obtain lists of about 300 persons who in the aftermath of the tornado volunteered their services to established and newly emergent organizations involved in the delivery of mental health services. A four-page mail questionnaire was sent to such persons covering the nature of their involvement in such activities and their general attitudes about the effectiveness of their actions and of the organizations for which they worked. (A copy of the questionnaire used is given in the Appendix of this report.) A total of 110 useable, filled-out questionnaires were received. What percentage this number is of the actual number of volunteers who participated is unknown to us, but we have reason to believe that those who replied constituted the largest bulk of those who were most heavily involved in the volunteer effort in the mental health service area.

6. Journalistic accounts

We subscribed to the local paper for a year and to the two nearby Dayton newspapers for a month after the disaster. The contents of these papers were systematically scrutinized for any relevant material on the delivery of mental health services in the Xenia area. The press accounts added almost nothing at all to what we knew substantively from other sources, but they were useful in indicating some of what was the focus of public attention and awareness in the community regarding mental health problems and organizations after the disaster. DRC also collected such journalistic accounts as it could from other than local sources, and these proved to be of some value in that a number of them discussed or made allusions to the handling of tornado-related mental health problems in Xenia as this was perceived from the outside.

7. Miscellaneous sources

While doing field work in Xenia, DRC became aware of other, more limited studies being conducted by other groups and individuals. These ranged from graduate students who gathered data for class projects, theses, and dissertations in fields ranging from nursing to architecture to education, to special surveys conducted for insurance, financial and other institutions. Whenever possible, all individuals and groups conducting such studies were contacted, and an effort was made to see if the information they were obtaining was relevant to our research purposes. In most instances this did not turn out to be the case, but isolated useful bits of information were occasionally acquired through these sources. None of the information by these other sources seemed to contradict or conflict in major respects with any of our own independently-gathered information, although occasionally there was some variance with respect to a detail or two.

Having described what DRC was interested in, how we went about our study, and what sources of information we used, it is now necessary to start depicting the impact of the tornado on Xenia. That is the focus of the next chapter.

II. THE TORNADO IMPACT AND THE GENERAL EXPECTATION

In this chapter we do four things: (1) very briefly sketch out some of the more salient pre-tornado population and community characteristics of the Xenia area; (2) note the nature of the damage and destruction wrought by the tornado; (3) describe the disruption of major segments of community life by the disaster; and (4) indicate what mental health problems were expected as a result of the tornado impact, by both the general population and health and social service personnel and groups in the Xenia area.

Pre-Impact Aspects of the Xenia Area

Because the tornado hit not only Xenia but nearby localities and because the response in Xenia was partly colored by the relationship of the city to its adjacent areas, it is necessary to indicate a few features of the surrounding area. Furthermore, the community mental health system we shall discuss covers all of the involved county (as well as nearby Clinton County) rather than just the city of Xenia itself. Where possible, 1974 estimates from planning and other reports are used, but in some cases we have had to rely on 1970 statistics drawn primarily from the U.S. Census figures (Bureau of the Census, 1972).

Greene County

Xenia is located in Greene County in the southwestern part of the state of Ohio, and is its county seat. In 1974 it was estimated that 130,000 persons lived in 37,300 households in 430 square miles in the county. The population is almost evenly divided between males and females. Probably because of the presence of five colleges and universities in the area and the Wright Patterson Air Force Base at the northern edge of the county, a majority of the people in the county are 24 years of age or below and only five percent are 65 or older. Non-whites make up but six and one-half percent of the county population.

The 1970 census figures show that excluding persons under 14 years of age, 30 percent were single, and 67 percent were married. Sixty-three percent of all families had children under 18 years of age. Foreign-born or natives of foreign or mixed parentage make up less than six percent of the total population. Sixty-two percent of persons 25 years or over were high school graduates with 12.3 being the median number of school years completed.

The county is primarily an outlying suburban area of Dayton (in contingent Montgomery County), which is about 15 miles to the west of Xenia. The area has no major central city and no major heavy industry and relatively little non-residential-related work activities unless the educational institutions are so viewed. Forty-seven percent of the population is in the work force, and a little over half of these actually work outside of the county, mostly in Dayton. Nearly

30 percent of the labor force is employed in manufacturing, about 15 percent each in public administration and retail trades and another 12 percent in educational services. Almost 30 percent of those employed work for some level of government or other. Median family income in 1970 was \$11,694 and mean income was \$12,530. A little over five percent of all families were below the poverty level.

There were a total of 36,226 housing units in the county in 1970 with only about a three percent vacancy rate. Seventy percent of the units were owner-occupied. Median value of owner-occupied units was \$19,900 and median monthly costs for rental units was \$102.

In many respects, Greene County is quite typical of many other suburban areas that are parts of eastern and midwestern metropolitan complexes. In this case, we have in the main a physically detached, moderately populated, lower middle class, primarily residential suburb in the metropolitan zone of the city of Dayton (with nearly a quarter of a million population). Only in a few respects is the county possibly atypical. For example, because of the cluster of educational institutions and the military base, almost 40 percent of the land is tax exempt, an unusually high figure. This particular factor did perhaps affect the community mental health delivery system in existence as we shall later note, but as a whole Greene County is quite similar to many other areas in the shadow of metropolitan complexes in Ohio and around the nation at large.

Xenia

Xenia, whose name is derived from the Greek word meaning hospitality, is located in six and one-half square miles in the center of Greene County. The 1970 census figures gave the city a population of 25,373; in 1974 the estimate was that there were 27,642 people in 8,953 different households (Xenia Rebuilds, 1974:122). In sex, age and racial composition, Xenia varied somewhat from the county ratios and percentages. There are about four percent more females than males in the city, and about eight percent of the residents are over 65 years of age. Racially, blacks number over 3,000 for 12 percent of the total population, about double the county ratio.

Qualitatively viewed, the town perhaps has more diversity than might be supposed, given its small size and the fact that almost all Xenians are native-born and less than five percent of the population is either of first or second generation foreign stock. There are the old time residents, white and black, whose ancestral roots in the town go back to its founding in 1803, when the state of Ohio itself was admitted to the Union. Blacks in particular have been well represented in the area since it was a major station of the pre-Civil War "underground railroad," and in the 1880's more than a quarter of Xenians were black. Another segment of the population are the commuters working in Dayton and elsewhere, and 1,297 civilian and military personnel from Wright Patterson Air Force Base nine miles northwest of the town. And there are students, faculty and staff members,

especially from nearby Wilberforce, the oldest black college in America, (with 3,000 students) and Central State University, the latter another predominantly black but state-assisted institution. Despite this relative diversity in social composition for such a small town, the community does not have a history of any great group conflict or hostility.

That the 1970 census indicated that less than one-half of one percent of the adult workers in the town are farmers shows that Xenia cannot be characterized as a small farm community. The work force composition in fact roughly parallels that of the county. For example, over a third of the male workers living in the city actually are employed outside of Greene County.

While part of the Dayton suburban area, Xenia is not a particularly wealthy suburb. Nearly 53 percent of the city households had total incomes of less than \$10,000 a year; about 26 percent had less than \$6,000 annually. Only 15.6 percent of the households had a yearly income in 1974 of \$15,000 or over (Xenia Rebuilds, 1974:111). About 6.9 percent of all families were below the poverty level in 1970, compared with a 9.3 percent national average.

Xenia is primarily a city of single-family residential structures. Out of 8,775 residential units, 8,320 or 87.8 percent were single family dwellings in 1974; 75.5 percent were owner-occupied (Xenia Rebuilds, 1974:107).

There are no large industries in Xenia, although there are some small plants or subsidiaries of national firms in and around the community. Before the tornado, the largest local employer was the Kroehler Manufacturing Company which had about 250 workers. Pre-tornado local trade was also on the decline and one survey found that only drug, hardware and grocery stores were receiving most of the local trade (Real Estate Research Corporation, 1974).

Politically the area in federal, state and local elections is almost always Republican. Governmentally, Xenia has the standard council-manager form. The seven-person council is elected and the mayor is part of this group. Unusual for a city of its size, Xenia has its own daily newspaper, The Xenia Daily Gazette, although two Dayton dailies also widely circulate in the area; also operating in the local area are one AM and two FM radio stations although all television services come from the Dayton area.

The Xenia area, while not highly subject to disasters in the past, has not been totally immune to them. A cholera epidemic occurred in 1848. A series of disasters struck the town in 1886. A tornado, for instance, hit Greene County that year and killed more than 20 persons. That same year, three persons were killed when an operating powder mill exploded, and a flash flood swept through the heart of the village and left 28 dead. Other tornadoes in 1916 and 1934 caused heavy damage. On May 8, 1969 a tornado cut through nearby Montgomery

County, causing about five million dollars in damage but resulting in no serious injuries or deaths. About 40 homes in the Greene County area were also damaged at that time. Nevertheless, despite these disasters and particularly the recurrence of tornadoes (at least eight in the county in the last 25 years), the area did not have a disaster subculture, a perceptual and organizational expectation of being disaster prone (Wenger and Weller, 1973). At the time of the 1974 tornado, there was no community disaster plan. As in the instance of almost all Ohio, neither the population at large nor public officials thought of themselves as located in a particularly disaster-prone locality.

Impact: Damage and Destruction

As DRC and others have found, exact statistics on losses are impossible to obtain for any large-scale disaster. However, the gross figures associated with the Xenia tornado are impressive, while that specific tornado was in turn only a part of a much larger catastrophic day in American history. It is estimated that on April 3, 1974 a series of over 100 tornadoes ripped through nearly 200 counties in 11 states, killing about 330 people, seriously injuring more than 6,000 others, destroying over 21,000 buildings and dwellings, and occasioning losses of perhaps a half of a billion dollars from the edge of the Gulf of Mexico to the Canadian border. Among the states, Ohio was the hardest hit, suffering about 25 percent of the damage, followed by Kentucky, Indiana and Alabama. But in Ohio as well as in the nation at large, the city of Xenia was the community that had the greatest destruction. In fact, as measured by casualties and property losses, the April 3, 1974 tornado in the Xenia area was one of the worst disasters in American history.

The Onset and the Warning. At 3:50 p.m. on April 3, the National Weather Service issued a tornado watch for Dayton and west central Ohio counties including Greene. This, the 98th tornado watch of 1974 followed an earlier 9:40 a.m. thunderstorm watch, a severe weather statement at 9:45 a.m., a tornado watch at 11:05 a.m., and additional severe thunderstorm warnings at 11:15 and 11:40 a.m. In the middle of the afternoon a thunderstorm, spawned from a low pressure center over Missouri appeared in the Greater Cincinnati area and moved northeast. This storm was heading towards Xenia when it collided with colder air south of Bellbrook, about five miles southeast of Xenia. Out of this appeared a tornado cloud.

At around 4:20 p.m. this tornado touched down in the Bellbrook area. The only television station, channel 7 in Dayton with its own radar system, immediately flashed a picture of the radar screen on its broadcasting screen to warn people a funnel was heading for the Greater Dayton area. At about 4:35, as the storm could be seen on the radar scope inching in a northeast direction, the newscaster commenting on

the picture said: "It certainly doesn't take much imagination to see that Xenia is going to get clobbered" (Heiland, 1974:2). Other stations in the area, both radio and television, also gave warnings to take cover up to 20 minutes before the tornado cloud actually hit Xenia. Concurrent with the above, starting at about 4 p.m. various emergency organizations in southwestern Ohio counties, particularly police departments, were getting and transmitting on their communication systems warnings that a funnel had been sighted moving northeast at about 50 miles per hour. The Greene County Sheriff's office received a tornado warning shortly after 4 p.m. As word got to the Xenia police department, cruisers moved up and down streets using loudspeakers to broadcast warnings. Still other Xenians spotted the tornado coming from afar. Thus, Xenia had information from different sources indicating that there would be danger; many people received the information, but many others also did not. It is perhaps significant that only two school principals had kept a radio tuned to monitor the development of weather conditions during the school day (Taylor, 1974:46).

The Tornado Path. When the tornado hit down in Greene County, it cut a path on the ground for about 16 miles, usually about 1,100 feet wide, and with winds estimated at times to be up to 300 miles per hour. The first section of Xenia hit at 4:40 p.m. was the southwestern sector. This was the Arrowhead housing subdivision where several hundred single story brick veneer homes without basements were leveled. Both the Arrowwood Elementary School and Warner Junior High were in the direct path of the funnel. The tornado, going over the Cherry Grove Cemetery and continuing in a northeast direction, then hit the downtown business district and in the process destroyed the Simon Kenton Elementary School. Advancing on into the center of downtown Xenia, the funnel devastated the McKinley Elementary School and the Central Junior High, as well as part of the high school complex. At that point, the tornado headed directly northward towards Greene County Memorial Hospital, but the funnel suddenly realigned its path and avoided striking that facility. Further on northeast another residential area was devastated. As the funnel passed out of the city still touching the ground, it reached the Wilberforce area where it went through the heart of Central State University, destroying or damaging 85 percent of the 2,300 student campus. After touching Cedarville and perhaps ten minutes after it had initially hit the southwestern part of Xenia, the tornado dissipated into the open country.

Physical Results of the Impact. The tornado left in its wake many casualties and much devastation. Entire blocks were reduced to rubble. Much of the downtown area was destroyed as well as two major residential neighborhoods.

Twenty-eight persons apparently died instantly and five others relatively soon afterwards for a total of 33, with nearly half or 15 of them being 21 years or younger. The total number injured, as DRC has typically found to be the case in most disasters, is very difficult to establish. Greene County Memorial Hospital treated and released at least 468 victims and admitted 34 others in the first 12 hours,

and treated more than 250 and admitted nine others in the next 18-hour period. Some of these were of course from outside the Xenia area and at least some were people injured in debris clearance activities rather than the tornado itself. On the other hand, at least 19 hospitals in a five-county area around Xenia received tornado victims from the area. And it seems certain that several hundred Xenians received first aid treatment from search and rescue teams, fire and police department units, from Red Cross personnel shelters, and from individuals. A minimum figure for any kind of direct tornado-related injury would appear to be at least 1,000-1,200 persons, perhaps four-five percent of the total population.

Unlike in some other disasters studied by DRC, however, search and rescue efforts were relatively quick and effective. Local groups were aided within a two-hour period by some 30 fire departments and other units doing this task. The Xenia fire department, aided by units from nearby fire and rescue organizations, spearheaded the search for victims in the northern and eastern sections of the city. Dayton police and fire units, and Box 21, a private rescue service, hunted through the western side of Xenia. Despite the dark and debris, most areas such as Arrowhead had been combed within four hours after impact and no victims were found much after midnight (Troeger, 1974:31). In fact, search and rescue was called off at 12:40 a.m. Practically no tornado victim therefore underwent the trauma of being buried for hours and not knowing whether one would be found.

About a fifth of the buildings in the city were destroyed and a somewhat higher percentage suffered substantial damage. Thus, one incomplete survey indicated that 1,139 homes were destroyed, 511 suffered major damage, and about 1,500 minor damage (Xenia Rebuilds, 1974:8). About 155 commercial and four industrial businesses in 121 structures were destroyed, including eight supermarkets, and major and minor damages were done to each of another 100 businesses. In addition, public facilities such as schools and the equipment of city departments suffered substantial damage (e.g., the police department lost 11 of its 16 vehicles), as well as churches (12 out of 46 churches in the area lost their buildings). Dollar losses were eventually estimated to be around 90 million dollars in the city, apart from municipal and county services. Two insurance companies alone paid claims for total automobile losses on over 800 cars. Additionally, in the Wilberforce-Cedarville area just north and outside of Xenia, another 44 homes were totally destroyed, 31 had major damages and 23 minor damages (plus the losses on the campuses of Wilberforce and Central State universities as well as Payne Theological Seminary). Further out in the county, 55 farms were damaged and about 100 head of cattle and 1,000 hogs were killed.

Statistical comparisons between disasters are notoriously difficult to make. But it is clear that in relative terms, Xenia as a single community suffered proportionately more casualties and losses in the tornado than is typical of other American communities of some size which have undergone disasters in recent times. Not many other

communities have had five percent of their population injured, 13 percent of their residential housing destroyed, 25 percent of the churches leveled, and more than half of their schools and businesses made inoperative. And excluding transportation catastrophes which are seldom locality-based, even the absolute figure of 33 deaths has not been exceeded very often in any given disaster in a single community in the last decades of disasters in American society.

It is not a purpose of this report to describe or analyze the immediate reactions of Xenians to the casualties and destruction. However, the immediate reactions in the hours during the evening and night of April 3 might be of some relevance to the possible development of mental health problems starting with the dawn of the following morning. If chaos, hysteria and total breakdown were widespread features of the first few hours, a commonly held image of trans- and immediate post-impact behavior (Fritz, 1961; Quarantelli, 1973), then they might be a contributory factor to later mental health reactions. Such an image has been found to be rather consistently incorrect for other catastrophes (Dynes, Quarantelli and Kreps, 1973); the same was true in the Xenia disaster. That is, there was no overwhelming chaos, massive hysteria or major collapse of local groups or community institutions.

Emergency organizations in the area started to respond as best as they could while the winds of the tornado had not yet died down. Members of the fire department, for example, were digging into the debris right across from one of their fire stations while the tornado had not yet cleared the city limits in the other direction. The local hospital started to treat incoming casualties within minutes and moved quickly into a modified version of its disaster plan. City officials gathered and started to attempt to assess what had happened and what needed to be done and held a series of meetings during the night. The local Red Cross chapter was starting to open up its first shelter within the first hour after impact. The radio station in the community went over completely to disaster-related programming.

There were problems, of course, some delays in certain actions that in retrospect were longer than necessary, and a fair amount of inefficiency and ineffectiveness in the responses. But overall, the emergency and related groups in the Xenia area simply did not collapse; they reacted relatively quickly with what capabilities they had, as typically do the vast majority of emergency organizations in any impacted locality (Barton, 1970; Quarantelli and Dynes, 1970). There was no total social disorganization; the local groups that should have reacted in the emergency did attempt to respond according to their responsibilities. A massive convergence of help from outside Xenia, especially from the Dayton area, did occur rather quickly and helped tremendously, but the local emergency and related groups functioned in a reasonable fashion.

Perhaps more important, in terms of our interest, was that there is practically no evidence of individual breakdown or personal hysteria the night of the tornado. This is attested to in the observations of the DRC staff members on the scene a few hours after impact, and in interview accounts with officials and ordinary citizens about their trans- and immediate post-impact behavior as well as their descriptions of the behavior of others. That victims generally responded well was in fact frequently noted in the interview remarks of Dayton and other nearby area emergency personnel who converged on the impacted zone. Thus, contrary to recent disaster film depictions of wildly hysterical, screaming, panicky, and almost animal-like behavior, one Dayton police officer remarked that he came upon groups of people searching for victims:

So you hear stories about how everything is quiet after a tornado. That's actually the truth. I pulled down there and you couldn't hear a sound. The people just standing there looking.

Perhaps more striking was the keen observation of a Dayton fireman who got into Xenia within an hour after impact. He noted that seeming cases of shock or people being stunned were not always borne out by closer examination. He cited one instance:

There was one woman walking down the street. I kept looking at her and, damn, she had a dress on that was all torn and you could see the blood running down her leg. I took her by the arm and I says 'Madam, are you injured?' 'No,' she says, 'I'm all right. I just got a scratch.' And she did. There was a scratch up there on the back of her leg. She didn't know she got it. And I said 'Well, where are you going?' And she knew where she was going! She was heading up the street up there to Allison Avenue to a specific location. I thought, well she knows what she's doing. I let her go.

Overall, such evidence as does exist indicates that the immediate response of the emergency groups and victim population in the impact area was, by most criteria, relatively reasonable, rational and responsible, given what had happened. In general, individuals and organizations attempted and in most cases rose to what the immediate situation demanded. But what after the first twelve hours when the light of the morning permitted a clearer realization of what the tornado had done? What it did, in human and social terms, we now examine.

Disruptions of Community Life

What is socially important about a disaster is not the sheer physical damage and destruction, impressive as that may be in some cases. Rather what is crucial is the disruption of community life, the marked

alterations of routine patterns of social expectations and personal habits. The physical impact, as in the instance of a tornado, is usually over in a few minutes but the other consequences usually extend for weeks, months or even years in Time Two.

In the Xenia tornado, as in any major disaster, the damage to buildings and lifelines and the effort required to respond to casualties and destruction significantly disrupted traditional and group activities in all spheres of life from work to recreation, from religious worship to banking services. A tornado does more than wreck buildings and sever lifelines; if it does not interrupt the rhythm and cycles of community life, then it at least puts a considerable strain on them. With stores and places of employment closed in Xenia and elsewhere, not only were some people temporarily unemployed, but necessary goods and services could not be obtained in the usual ways at the times and locations wanted, and various governmental agencies did not receive their normal tax revenues. Educational schedules were sharply altered as were recreational habits for children as well as for adults. For varying degrees of time, breadwinners were not able to provide their usual provider roles, and different organizations had to augment and extend their usual services and develop new programs for the newly unemployed and otherwise disadvantaged. Government and public units had to drop, curtail or delay some of their traditional services such as street maintenance, refuse collection and mail delivery, and had to develop new ways of dealing with the convergence of people, materials and information on the impacted area, the problems of possible profiteering, and the coordination of efforts with previously unencountered bureaucracies at state, regional and federal levels. In short, the tornado very sharply disrupted community life, the social fabric of life, in Xenia.

Since it is not our purpose to describe the Xenia disaster in detail, we will not attempt to depict the community disruption across the board. However, in order to give some indication of what the people and groups had to adjust to after the tornado funnel had left its mark on the area, we will selectively depict some of the disruptions of major segments of community life. These were chosen for examination because of their possible implications for both the demands for community mental health services as well as the relevance for such services as were actually delivered in Time Two. We briefly note the alterations of life in the economic, educational and familial institutions in the Xenia area.

Economic Disruptions. There was of course the immediate disruption of commercial and trade activities as soon as the tornado hit. For all practical purposes there was little business conducted in Xenia the night of the disaster. But the next day a few drug stores and gas stations opened up, although only eight of 28 service stations in the area could pump gas after the tornado. And banks were reopened after the weekend. In fact, most of what could operate was open following the weekend after the disaster, a typical phase pattern in recovery which DRC has found in other disasters.

However, the temporary interruption of business was nothing compared with the longer run economic disruption. Much of the downtown area where stores were located was devastated as well as the largest single employer in town. In fact, a later study estimated that 52 percent of the job market in the town was disrupted by the tornado (Xenia Rebuilds, 1974:6). For specific businesses the losses at times were staggering; thus one car dealer lost 100 new automobiles, 30 trucks and 80-90 used cars.

In part, this economic disruption resulted in Xenians not having some of their usual places to do shopping and business, a loss of the familiar after a disaster which some people find disturbing (Marks, Fritz et al., 1954:479). More important was that many people in Xenia had the continuity of their employment disrupted for varying periods of time. The Interfaith-DRC survey found that 60 percent of the respondents had their work or job interrupted by the tornado; in 37 percent of these cases the interruption was for a month or longer. To be sure, losses or suspensions of jobs were neutralized in many cases by unemployment insurance, grants and gifts, other public and private compensations, temporary positions, etc., but nevertheless there was in these cases a taking away of persons from their usual occupations, often resulting in reduced or lost income (in 23 percent of these cases, according to the Interfaith-DRC survey).

In a few cases, employers were able to take special measures to insure little or no loss of income for job disruption. For instance, 295 employees of Wright Patterson Air Force Base living in the Xenia area had damaged or destroyed homes, injuries, or other personal losses. Approximately 200 of these civilian employees were granted administrative leaves of from one to ten workdays (administrative leave is full pay without charge to the employee's annual or sick leave balance), as well as other kinds of assistance. However, such cases stand out in sharp contrast as being the pattern for a small minority of all disaster victims. The Interfaith-DRC survey, for example, found that only 22 percent of the sample in Xenia received any assistance from their employer.

Furthermore, the economic recovery of the town took time and in many respects still has not been attained. Initially on April 19, the Xenia City Commission voted a moratorium until June 1 on building permits to reconstruct totally destroyed areas of the business sector. One consequence was that the first downtown building was not rebuilt and reopened until January 3, 1975. Furthermore, state and federal funds were both slower in arriving and smaller than expected, so that on the anniversary date of the tornado in 1975, many businesses were still operating out of temporary quarters and a downtown urban redevelopment plan was enmeshed in a bitter intra-community controversy, a post-recovery conflict situation typical of many disasters (Dynes and Quarantelli, 1975). A projected industrial park in south Xenia was unlikely to see construction beginning until 1976.

Work for the average adult in American society provides not only the prime source of income, but it is also one of the major activities that by

being familiar and always present provides a great deal of the psychological and social anchoring that is needed for effective personal functioning. For a number of Xenians, the disaster affected in varying degrees a major social role, that of work.

Educational Disruptions. The educational facilities of the area underwent exceptionally heavy damages. Central State University, while its dormitories escaped impact, had 16 of its classroom, administrative and library buildings badly damaged or destroyed. Wilberforce University, across the road, had several million dollars worth of damage to its campus. A year later rubble still existed at Central State and total rebuilding was not expected until 1977.

But perhaps more important was what the tornado did to the public school system of Xenia. Fortunately, schools were out for the day when the tornado hit at 4:40 p.m., although at 5:45 p.m., 600 persons had been scheduled to attend a banquet at one of the junior high schools that was to be devastated. Of the five of 11 buildings in the public school system that were not seriously affected by the tornado, three were temporarily put to use in the rescue and recovery efforts. Cox and Spring Hill elementary schools were used as shelters the night of the tornado. The latter school eventually served as an emergency supply center in the days immediately after the tornado. Shawnee Elementary became for a while the "one-stop" center housing federal disaster agencies.

However, four of the public school system buildings, including the high school (enrollment 1,455), were completely destroyed. Two others were badly damaged including also the second junior high (enrollment 791). While few records were lost, there were substantial losses also in terms of equipment, books, maintenance and athletic facilities. In addition, 13 of the 36 school buses were put out of operation by the tornado. While nearly \$10 million worth of the losses were covered by insurance, no school system in Ohio's history had ever suffered such losses (Taylor, 1974:60).

Schooling was not resumed immediately. This was helped by the fact that the week following the disaster event was the scheduled Easter spring vacation. A decision was made to reopen the school system. In part, the decision stemmed from the necessity not to lose state funds which required a certain minimum number of days for the school year, and in part, from the hope that the reopening of schools would help to restore some feelings of normalcy to children by reestablishing some routines.

Three of the elementary schools could not be reopened and their personnel had to be absorbed into the five remaining elementary schools left in Xenia. To do this, three of the undamaged schools had to go on double sessions, and the school day for all was shortened to four hours. The junior and senior high school students could not all be accommodated in Xenia. Turning down an offer to use Dayton facilities, the Xenia public school system worked out an arrangement with nearby

Beavercreek for use of its facilities by the Xenia high school and one junior high. The other junior high used the facilities of the nearby Fairborn system. Apparently the decision to use the facilities of these systems rather than those of Dayton came from a desire to put students into comparable small school systems (Taylor, 1974:78). However, to use these facilities, the school day shortened to five hours and had to be run from 3 p.m. to 8 p.m. The athletic program was completely cancelled.

Since many of the elementary school children could no longer walk to their assigned schools and since all the junior and senior high school students had to be transported out of town, the bus fleet had to be doubled. In fact, buses had to run from about 7 a.m. to 9 p.m., part of the time in the dark, and through debris and reconstruction-littered streets.

The school system was reopened Monday, April 22. There had been a loss of only seven days of schooling. The school year came to an end as scheduled seven weeks later with substitute teachers being used less than normal during that time period (Taylor, 1974:94).

The pre-tornado school enrollment had been 8,307. When schooling was resumed on April 22, those enrolled dropped to 7,205 (only seven students had died in the tornado). The enrollment climbed to 7,728 on May 3 and dropped back to 7,566 by the end of the school year (10 percent below the beginning September enrollment). Most of the loss of enrollment, if not practically all of it, seemed to have resulted from the fact that a number of families had had to locate temporarily outside of the immediate Xenia area, and their offsprings therefore could not return to the local school system.

After the summer vacation, schools were reopened for the 1974-1975 year on September 9, 1974. This followed a summer of considerable local-state-federal misunderstandings and conflicts about the rebuilding of the Xenia public school system. When the schools reopened, the elementary schools still had to continue on double shifts. Furthermore, new school district boundaries had been drawn to accommodate to the existing facilities thereby leading some students to go to schools different from their previous ones. The junior and senior high school operations, despite a minor delay in opening, were all brought back into Xenia. All the high school activities were consolidated into one of the repaired junior highs, supplemented by three modular units. By running split sessions, all students could be accommodated. The overall enrollment in the school system was 900 below the previous September, and 70 below the figure at the end of the previous school year in June 1974. One analysis suggests that part of the drop in the enrollment could be attributed to a long run decrease in the birth rate (Taylor, 1974:114). On April 3, 1975, the anniversary of the tornado, the enrollment figure was about 7,550.

Only some of the younger people in Xenia were directly impacted by the tornado. However, because of the situation in the public school system, the vast majority of Xenian students were at least indirectly affected by the disaster, not only in the first two months of Time Two but also in the following school year. The changes in the school system operations necessarily disrupted their formal educational training and experience, and made it more stressful than it otherwise might have been.

Familial Disruptions. Family life for many was disrupted in many ways by the tornado, including by the economic and educational disruptions we have just discussed. Additionally, some families had members hospitalized for varying lengths of time; a week after the tornado, 83 persons were still in hospitals for tornado-inflicted injuries and nearly 70 percent of them were being treated outside of the county. However, the greatest interference with normal family life and routines was created by the necessity to evacuate homes. There were both temporary and longer run disruptions of ordinary family life because of this.

The Interfaith-DRC survey, for instance, shows that 49 percent of the population had to leave their homes at least overnight because of the tornado. Not all left because of direct damage to their residences by the tornado; some evacuated because of lack of gas, water or electric power in their otherwise unaffected homes. It took 32 hours to restore water pressure and about two days to reestablish gas service to undamaged homes in the majority of the city (Troeger, 1974:31). Electric power was still out in five percent of the remaining serviceable homes as of Friday, April 6. Garbage collections were resumed only the following Monday.

As is usually the case in disasters, the vast majority of displaced persons evacuated not to Red Cross or other mass shelters, but instead went to friends and relatives (for evacuation behavior in other disasters see Quarantelli, 1960; Moore et al., 1963; Drabek and Haas, 1970). In fact, according to the Interfaith-DRC survey, less than three percent of those that evacuated used Red Cross or mass disaster shelters at any time. One observer noted that less than half of the 150 cots set up in one shelter in Xenia were occupied Thursday night, two days after the disaster. Statements that thousands were in mass shelters are not warranted by the systematic evidence available, although it is true that hundreds were fed at a time in shelters and certainly thousands of people were out of their homes. But most evacuees in the Xenia area went to relatives (75 percent); trailing in the distance as a place of evacuation were the homes of friends (19 percent).

Furthermore, the length of time people were out of their homes was often rather long. Of those that evacuated, about a third were out only overnight (14 percent) or two-three days (22 percent). But 48 percent of the evacuees were out two weeks or more, and 36 percent reported that they were out of their original homes more than a month.

Public statements as well as figures presented to DRC personnel by HUD (Housing and Urban Development) officials were not always consistent with one another as well as with earlier statistics issued. This makes it difficult to project an exact count of those that had to leave their homes for an extended period of time. But HUD generally reported that about 4,000 families or households had housing problems (including those in the Wilberforce area), of which about 1,800 applied for governmental help. HUD statistics indicate that 1,471 displaced families were assisted, with the first victims housed on April 8. However, all eligible displaced persons were not located in temporary housing until six weeks after the disaster, with four percent still not housed as of May 9, 1974.

Some families living in pre-disaster single homes were placed in apartment complexes. There was also, in some instances, the bringing of lower-middle or working class families into an upper-middle class housing complex. Still other families were located out of Greene County; in fact, apparently 50 percent of the families housed were placed for some time at least once outside of the county.

Rebuilding took place more rapidly in middle income residential sections. But in poorer neighborhoods it lagged. For example, by January 8, 1975, 79 percent of the approximately 350 homes destroyed in the Arrowhead subsection of Xenia were being rebuilt.

Nearly a year later, on March 18, 1975, HUD indicated that about 848 of the families of the original 1,471 that had been housed had either returned to their original addresses after rebuilding or had settled into new locations but within the community. A total of 291 families had relocated to neighboring communities although it was anticipated that some of these would eventually return to Xenia. About 45 families had moved outside of the state. Nevertheless, even at this time, 205 Xenian families were still temporarily housed under federal disaster assistance programs not only in Xenia but also in nearby Centerville, Dayton and Fairborn.

Any way that the short run or longer run housing figures are interpreted indicates that there was considerable disruption of routine household activities of many Xenians. And in the instance of a minority but still substantial absolute number of families, the disruption extended for months. Many people in Xenia had to try to carry on everyday life for varying periods of time far from usual and familiar places of residence.

Post-Impact Expectations

Given the disruption of community life resulting from the damage and destruction wrought by the tornado, what expectations were there as to how this would affect people? What was believed about the reactions that there would be to such a stressful situation? What in particular

were the beliefs about possible and probable mental health problems held by medical, social service and mental health personnel? What was thought to be the likelihood of problems not only in the short run but also the long run?

Later in this report (in Chapter VI on consequences), we will discuss what our research could estimate, and what studies elsewhere by DRC and others indicate about the actual reaction of people in stress situations. We will suggest that the actual needs in Xenia were probably different in some respects from what many believed to be the situation insofar as mental health problems were concerned. But at this particular point in this report, we are primarily interested in depicting, insofar as we were able retroactively and impressionistically to reconstruct them, the general expectations that existed in the early stages of Time Two about the need for tornado-related mental health services in the Xenia area. More specifically, we want to address the question of what were perceived to be the mental health problems that faced the community mental health system as a result of the disaster.

Beliefs About Reactions. People do not come into disaster situations with blank minds about the supposed reaction to such extreme stress. There are common beliefs about the supposed responses to extreme stress even before a disaster occurs. The general tendency is to assume that there will be mental health problems although the popular vocabulary is to frame it in terms of a state of "shock" or an "emotional" reaction. Typical also after a catastrophe of some kind is that anecdotal stories circulate about "unusual" behaviors on the part of some victims. Experts on human behavior and mental health problems allegedly and in some cases actually reinforce the common beliefs. Professionals in the mental health areas for their part frequently have supportive ideologies which lead them to anticipate certain negative reactions among victims even though mental health personnel seldom exhibit consensus on their expectations. All of these responses we found in the Xenia situation. The pattern manifested was a familiar one to DRC, having been observed before in over a decade of field work and dozens of disaster situations.

Wenger and his colleagues in their survey in the state of Delaware found that large blocs of the population foresee that disasters evoke certain kinds of reactions. For example, they found that 73 percent of those surveyed agreed with the statement that "immediately following the impact of a disaster, the disaster victims are in a state of shock and unable to cope with the situation by themselves" (Wenger et al., 1975). Blanshan (1975), in a post-Xenia study in a nearby part of Ohio, found just about the same degree of agreement to the same question. While we have no such pre-disaster data for Xenia, in the Interfaith-DRC survey we did find that in answer to the question -- About what percentage of the people in Xenia do you estimate have some kind of emotional or mental problem as a result of the tornado? -- half of the respondents thought 40 percent or more of the population fell in that category. In fact, 38 percent of the sample thought half or more of

the residents of Xenia had disaster-related emotional or mental problems (although, as we shall later note, generally disavowing having such problems themselves).

Similarly, in interview after interview with lay persons as well as with professionals in different spheres of life it was stated, in the words of one minister, "Oh, the shock was obvious. Most people were operating at about 50 percent of efficiency." Another person said: "In the first few days, people went ahead, cleaning up their homes and all, but they were in sort of a trance-like state." The attribution of mental health problems to others was very widespread in Xenia.

Mass media accounts, as is often the case in major post-disaster situations (Quarantelli and Dynes, 1973:43), reinforced the imagery of probable mental health problems. One of the Dayton daily newspapers widely circulated in Xenia, four days after the tornado not only reported that people "obviously were in shock" but added the questionable statement that:

Following the Dayton flood in 1913, it is recorded that 32 persons had to be committed to Dayton State Hospital for the Insane, now the Dayton Mental Health Center. Greene Memorial thus far has sent only one tornado survivor to the Dayton institution. Later, when the real shock sets in, there could be others (Kline, 1974:4).

There was in Xenia, as is usually the case after disasters, a tendency also to seize upon isolated instances of what was defined as unusual post-disaster behavior and to project them to much larger segments of the general population. This occurs usually by way of the circulation of stories of such behavior. In Xenia, as one example, many passed along a story (and it appeared in the newspaper as well) about an older man who had to leave his home because it had been heavily damaged. He was relocated to three different places, but returned from each one to spend the following night in his car by his destroyed home. In fact, this particular individual was eventually referred to a mental health agency even though it was said:

It wasn't a case of this man being obnoxious or belligerent. He was genuinely concerned about his place and was just showing a lot of determination to stay there and to make sure it got taken care of... They (i.e., HUD) placed him about three times, and really just displayed a lot of tolerance, I thought.

However, it is not only that people in disaster situations in general believe and talk about the allegedly "bad" reactions to the event. They are frequently reinforced in their belief by the statements and advice of assumed or alleged experts about human behavior and mental health problems. This happened in Xenia. For example, a physician in an interview remarked:

We were getting all kinds of stories about how we were going to, after the initial casualties came in, we were going to have to deal with emotional problems...psychiatrists said we're going to get a lot of this now. Some of the other physicians had that feeling too. And it seemed a logical conclusion.

In Chapter IV in this report we will describe and discuss the very great influence and effect of outside mental health groups and organizations, as well as experts, on the behavior of the community mental health service delivery system after the tornado in Xenia. Here, we merely want to note that even in the first few days after the tornado, the local community, groups and professionals were getting the generally unsolicited advice of outsiders, starting with some in the Dayton metropolitan area and eventually emanating from state, regional, and national sources. The general theme of most of this advice, explicitly defined by some experts, was that mental health problems were very probable, both in the short and long run.

In some instances local people, including some in the local medical and mental health systems, undoubtedly attributed statements to outside experts that almost certainly were oversimplifications of far more sophisticated and qualified remarks. Thus, one professional in the mental health system claimed that one outside expert a few days after impact:

told of people in other disasters who had sat in the house for days, didn't eat, just in a state of shock, not making any noise, that is, totally silent. And those who weren't touched by the disaster, who were in a sense indirect victims, but nevertheless in shock...so (X) called them silent problems. (X) said people will always say they're fine, but if you begin by saying, "Are your neighbors having any problems?" they'll begin on the neighbors and then they may very well come back to themselves...(X) was saying that there needed to be intervention for some of those who are now becoming hysterical and who were shaky emotionally beforehand.

On the other hand, undoubtedly listeners to experts probably correctly attributed what they had heard as did some mental health personnel in Dayton, one of whom said that right after the tornado:

The psychologists were all of the opinion that there ought to be some sort of immediate care and it ought to be psychiatric care. Somebody was in drugs. Somebody could get over and tranquilize people.

However, despite the just cited statement, mental health personnel were far from unanimous in their views on the consequences of the tornado for mental health problems. Beliefs ranged from those who were certain that there were going to be problems, to those who were skeptical, to those who thought that maybe their own actions might be contributing to what they were seeing. For example, one professional said:

I read somewhere that a, b, and c are likely to follow in this kind of situation. And it seemed to me that this is a perfect situation for multiple and undurable stress and that some people would really be reacting rather, sort of badly.

While some of these persons emphasized depth of reaction, others instead assumed a range of high involvement. That is, they projected that almost all people in the Xenia area were bound to have some problems.

There were some people involved in the mental health system who at least verbally indicated some uncertainty about the contribution of the disaster to potential mental health problems. As one such person said:

When I did get around to calling my regular clients, they said, 'Oh, don't pay any attention to me.' Or I said, 'I can't see you next week at our regular time, say Wednesday at three o'clock.' They would say, 'Oh, I know, don't think of me, just forget about me, take care of yourself. Are you alright? And I know you're busy with so many other people...' And in that sense maybe they felt stronger because they were feeling they couldn't miss their appointment with me formerly, and now they were saying, 'Oh, you know, don't pay any attention to me, you go help all those poor people that lost their homes or lost someone in the family.' Now whether that's out of being strengthened or out of guilt, I don't know. It strengthened them to the point where they were coping without seeing me there for awhile. Either it made them stronger, or it was the guilt that made them think they shouldn't ask for anything.

One volunteer outreach worker indicated some awareness that perhaps her own actions might be coloring what she was seeing. As she expressed it with regard to children:

Sometimes they talk about gorey things and I don't really remember this from before. Maybe I am attributing too much to it (the tornado). Another thing is how possessive the children seem over materials and textbooks. It's like everything is more precious now, since the tornado. These are just some of the signs we look for in children. Maybe we're trying too hard to look for signs. I don't know.

Nevertheless, even those who expressed some skepticism, as the above persons, frequently acted in their interaction with clients and others involved in the tornado, as if there were substantial mental health problems involved.

In part, of course, some mental health personnel were responding primarily on the basis of their training rather than anything they perceived. One social worker said:

Due to my formal training, immediately I knew there was anxiety and depression and that with the loss there would also be a rage reaction, which they would immediately defend themselves against, and would come out as depression. And also the guilt that maybe my house wasn't blown away or destroyed, or she lost her child, and I just lost my house, or something like that.

Given such orientations, it is understandable that anything that supported the expectations was seized upon as evidence, even though on other grounds caution might have otherwise been exercised. Thus, one mental health professional observed that in the first few days after the tornado, while working in the Xenia area:

We were beginning to get reports that some people were kind of disturbed, hysterical and upset. We got reports the first day -- and I never had this verified -- but we had reports...We had one report that a person had been brought from Xenia to Miami Valley Hospital with a psychotic episode. I don't know if it's true. I just never had -- at that point nobody was really verifying this sort of thing. Had also a report of a couple of people that were psychotic at Greene Memorial. So it, you know, it seemed to me that the concerns I had would be verified from the stuff that was just sort of drifting in.

Interestingly, even the failure of the observed reaction of victims to correspond to what was projected did little to shake the belief of many. Another professional remarked that in the first few days after the tornado:

I was seeing a few of my regular clients and all of us were seeing fewer. In the first place, the people were not organized to come in for their weekly visits. In the second place they felt guilty about coming in because they knew about our problems, that we were having difficulty getting located. And we found a lot of this guilt, and we found our intake went down. The average type of emotional problem was not presented to us like someone had been having a mental problem. We found most of what we met was precisely disaster-related.

Some mental health personnel tended to extrapolate from everyday loss or personal stress situations to the disaster. Thus, one professional said:

There may be, I think, some need for clarification of what one would normally see, such as how one reacts to stress or a loss, and be aware that there would be periods of sort of being out of it and, of course, some being in shock for a period of time. The next response may be denial. It couldn't have happened. It really didn't happen.

Then the realization of what has happened and being very angry and frustrated, and possibly having a depressive sort of reaction. Without oversimplifying it, it is sort of like the phases that you would expect as a result of a person having a loss and/or stress in all kinds of situations.

On the other hand, other professionals projected problems but of a rather different kind than normally encountered. Thus, one social worker phrased it as follows:

I've...the idea that there are other things that happen in disasters that are quite different which is that a person comes through with a pseudo kind of manic depressive problem that is not really a psychotic problem, but is in a way a very pseudo problem. Transient, you know, not like other psychotic episodes.

Furthermore, among some mental health personnel, there was a strong belief that while there might not be immediate problems right after the tornado, the longer run picture was far more foreboding. As one such individual (a social worker) said in a DRC interview several months into Time Two:

Well, my feeling is it's probably going to be up to at least through the end of the next school year, past the first anniversary date of the tornado. The anniversary dates themselves tend to or can be upsetting, and like in this kind of situation they will be upsetting...Additionally I anticipate as people return to their homes in the Xenia community, they're going to be at the point of the grief process. And it's going to occur in the children who return to the schools. And I suspect with some of the group kind of contagion that can occur when these children and adults return, they're going to stir up some memories of persons who did remain.

Much earlier, another professional worker had said:

From one psychiatrist at the State Hospital we got the idea we don't have to worry about them now. The impact of this wouldn't hit for six weeks.

Still another commented:

I think people will have emotional breakdowns. I think our period of the disaster is going to come, and I've set my timetable for what is going to come. And the worst hasn't started to hit yet.

The General Expectation

All of the above quotations serve to indicate the early general climate of expectations not only among the population at large and the mass

media, but particularly among the local and nearby health, social services and mental health personnel who tended to be reinforced in their views by outside experts. Clearly, despite a lack of full consensus especially among mental health professionals, there was a pervasive anticipation in the few days after the tornado that there were going to be mental health problems and an increasing feeling that they were going to surface markedly in the long run.

At this point in time, of course, there had been no assessment of any kind of the mental health problems that might exist, although as we shall indicate in Chapter IV, such an assessment of needs while planned early by one mental health group was actually carried out by another organization. But at this early period after the tornado, right at the start of Time Two, there was certainly a rather general expectation (with the very important exception of a key mental health group that will be discussed later), that since problems were going to appear, there were going to be high demands for mental health services. There was a rather strong degree of agreement that there were mental health problems, although some argued that "people didn't want to admit their mental health problems" and others thought that they would only emerge later. And objectively, although unknown to those involved in thinking about the potential problem, it was a fact, as the Interfaith-DRC survey later found, that 75 percent of the Xenia population had some direct or indirect losses as a result of the tornado.

Given the perceived need and the objective situation which at least suggested certain potential demands, what capabilities or resources were available in the mental health sector of the community? To answer that question we need to examine the context out of which the mental health delivery system in the Xenia area had evolved. We discuss this development in the next chapter.

III. CONTEXTS FOR THE MENTAL HEALTH DELIVERY SERVICES

This chapter, following an introduction, examines: (1) the full emergence in American society in the last two decades of the ideology of community mental health; (2) the very recent establishment of a community mental health delivery system in Ohio; (3) the development of a mental health delivery system in the Xenia area; and (4) the shifts that were occurring in that system just prior to the tornado. The chapter sketches out the larger background contexts within which the mental health response took place at the time of the disaster. It essentially provides selective information on the historical development and the features of the system that existed in the Xenia area at Time One.

Introduction

Any response to a situation cannot be understood solely in terms of the immediate conditions operative in the setting involved. Contemporary conditions affect on-going social behavior and social entities that are the end product of an earlier social environment or context. The mental health delivery system existing in the Xenia area at the time the tornado struck was the outcome of processes and actions that had happened earlier. We will examine the social contexts, therefore, so we can understand the affected system that existed at the time of the disaster.

Almost by definition, disasters create demands which need to be met. It is easy to overestimate the demands in a community hit by a disaster, and to underestimate the surviving resource capabilities (Dynes, 1970). However, even when a system fully mobilizes its resources by way of personnel, information and the like, it may not be able to meet the accelerated demands. Furthermore, there may also be significant changes in the kinds of demands made upon the system. However, to understand quantitative and/or qualitative changes in demands requires knowledge of prior demands upon the system and the characteristic structure it had evolved to meet those demands. Thus, unless we know what kind of system had developed in the Xenia area as well as the earlier demands which had led to that development, we would have difficulty in understanding the additional and/or new demands created by the disaster.

Similarly, disasters not only affect demands but they may also generate new and/or different capabilities in a system. In some instances, existing organizations in the system may assume entirely new tasks or responsibilities, thereby changing their original character. In other cases, new capabilities are sometimes manifested by new social entities, emergent groups which had no Time One existence. But neither the existing (but structurally changed) agencies delivering services different from their traditional ones, nor the newly created groups providing new services, come out of a social void or vacuum. There is a great deal of continuity between Time Two patterns and those of Time One (Forrest, 1972). If we are to understand the old organizations in Xenia performing in Time Two differently from before the disaster,

or the new groups that came into being after the tornado, we need to know the earlier Time One social contexts that were their background.

In other words, in order to understand better the delivery of mental health services in a disaster setting, it is necessary to have knowledge of how the mental health delivery system functioned in Time One. Therefore, this chapter begins with a general history of the idea of community mental health particularly stressing the ideology in this approach to mental health care. This ideology underlies both the national approach to mental health care as manifested in key legislation, and how state and local groups have attempted to implement it in actual practice. We follow this exposition with an examination of how this ideology was specifically manifested in the establishment of a mental health delivery system in the state of Ohio. This presentation provides one larger context for understanding what, how and why a certain kind of community mental health delivery system became established in the Xenia area, centering around the Greene-Clinton County Mental Health and Mental Retardation Board (hereafter abbreviated as the Greene County system or board as appropriate to the discussion).

It is particularly relevant to discuss this context since certain patterns of program development, coordination, interagency relationships, service priorities, etc., which exist in the Xenia area derive from the way that community mental health services are generally structured in the state of Ohio. They do not stem, as is sometimes locally and otherwise believed, from any unique or special features of persons or groups in Greene County. Having described the complexes of groups and organizations and the network of services which exist in the Xenia area, we conclude with a discussion of certain trends that were operative in the system when the tornado hit. Systems are normally always adjusting to their internal dynamics, as well as external factors, and the pre-tornado mental health delivery system in Greene County was no exception to this.

To the extent that the mental health services delivered after the Xenia tornado were not spontaneous and unique but were a continuous outgrowth of Time One patterns and trends, examining the contexts of the Greene County mental health delivery system will help substantially in understanding the services provided in Time Two. The present is always part of the past, and the latter must be known if the former is to be understood.

The Ideology of Community Mental Health

The idea or concept of community mental health is of recent origin in American society. While some of its key notions have deep roots in the past, the concept of community mental health was only formally established with the passage of the Community Mental Health Centers Construction Act in the United States Congress in 1963, as noted in Chapter I. Up to that time, a more traditional conception about the approach to mental health problems prevailed. But the community mental health notion differs in some major ways from the older, more traditional conception.

Dimensions of the Ideology

Bloom (1973) has recently reviewed the history of the community mental health approach and has distinguished it from traditional mental health activities along several dimensions. (For a treatment of this approach as a social movement, see Ewalt and Ewalt, 1969.) The first dimension which differentiates community mental health from the more traditional clinical approaches is its emphasis on providing services in the community, or in natural social environments, as opposed to institutional settings. This is obviously the most crucial aspect of the entire approach and, as such, determines other major goals and strategies of mental health service delivery. A second characteristic is its stress on the total community as the legitimate target population for its programs, rather than on individuals who find their way into the clinics for treatment. Together, these two aspects of community mental health can be viewed as the application of public health concepts to the field of psychopathology.

A third emphasis of community mental health is on the prevention of emotional and psychological disorders, as distinguished from an exclusive focus on the therapeutic treatment of existing psychopathology. Consistent with this objective, the fourth characteristic of community mental health practice is its reliance on indirect services, such as consultation and mental health education, rather than solely on direct services. This strategy aims to develop mental health skills among persons working in other caretaking systems, such as the schools, churches, legal system, medical system and the like. The development of these skills will allow caregivers in such systems to deal more effectively with their clients and, thereby, provide mental health intervention to an increasingly larger population.

A fifth characteristic of the community mental health approach is an emphasis on innovative treatment strategies which will facilitate providing mental health intervention to larger numbers of people more promptly than previously had been the case. (In contrast, the traditional orientation has focused almost exclusively on providing long-term individual therapy to fewer clients.) In this respect, crisis intervention and brief psychotherapy have emerged as the most influential new approaches to prevention and treatment. However, this emphasis has also contributed to the myriad of intervention strategies currently utilized in the mental health field.

The sixth characteristic of the community mental health orientation is its emphasis on rational planning processes in the development of coordinated and comprehensive mental health programs and facilities. Ideally, decision making regarding mental health planning and program development is to be based on the systematic identification of community needs. In contrast, facilities had formerly emerged somewhat haphazardly, resulting not only in the proliferation of duplicated services and uncoordinated efforts in some localities, but in the total absence of mental health services in others. Moreover, frequently those services which did exist often failed to be based on the characteristics and needs of the particular communities in which they were located. A seventh characteristic which distinguishes the community health orientation from traditional approaches is its use of different sources of personnel, i.e., the paraprofessional, or the indigenous

mental health worker, instead of relying solely on the traditional mental health professions.

The last two aspects of the approach are deeply rooted in the community action strategies which pervaded the federal, social and welfare programs developed in the early sixties (Moynihan, 1970). This strategy assumed: (1) that those who have problems, whether they be poverty, illiteracy, mental illness, or whatever, know better what their problems are than outsiders, including experts; (2) that much human misery is actually the result of a sense of powerlessness and alienation; and, therefore (3) that those who have problems can eventually find their own remedies if community decision making processes are restructured so that power is more equally distributed. Given the popularity of the community action strategy among social and behavioral scientists and policy makers in Washington during the period of the early and mid-sixties, it was inevitable that this strategy would find its way into the developing community mental health orientation.

Thus, an eighth characteristic of the approach is "community control," which means that the mental health professional is no longer to be the sole source of data regarding the mental health needs of the community and the best ways to meet these needs. Instead, representative sectors of the community are to join with their local mental health center in identifying needs and proposing programs to meet these needs. Moreover, since presumably the center operates on behalf of the community it serves, its primary accountability for the effectiveness of its programs is therefore to the local community, i.e., to its clients, rather than to the standards of the mental health profession.

A final distinguishing characteristic of the community mental health orientation is in identifying the sources of stress within the social environment. It is assumed that the social setting produces emotional and psychological disorders, rather than assuming that the sources of psychopathology are altogether inside the individual. In other words, the community itself is to be viewed as the patient, and the goal is to make communities the sources of health by affecting changes in the social systems in which people live. Indeed, this strategy rather quickly becomes highly politicized in character.

Ideological Attribution of Source of Mental Health Problems

It is clear that there is an implied, if not direct, criticism of traditional mental health activities in each of the preceding distinctions. But the last one, the basic source of mental health problems, is a particularly crucial point and a major point of contention. It relates to the models that are used in understanding pathology. In the fifties and early sixties mental disorder was largely viewed by the professional community as a disease process no different in quality from any other disease process. Thus, people with emotional and behavioral disorders were considered to be "sick" and therefore ought to be treated by the medical community. But there has been a long-standing debate along a variety of lines regarding the appropriateness of the so-called medical or disease model in trying to understand psychopathology. Criticism has been raised against this model because of

the failure thus far to locate in a systematic fashion physiological abnormalities which would account for most types of mental illness, and because of increasing evidence that a manifest source of a great deal of what is called psychopathology lies not inside the individual, but in the social setting. If the latter is true, it raises all kinds of moral and political implications.

However, even more significant for our purposes is that the particular model of health and disturbance adopted has profound implications for who provides the treatment, what types of treatment will be provided, and in what settings the treatment will take place (Albee, 1968). A closer examination of this linkage is necessary. The basic assumption of the traditional medical model is that certain symptomatic behaviors, e.g., depression, anxiety, hostility, etc., are a manifestation of underlying disease processes. Further, these symptoms are thought to produce impairment in social functioning, that is, inadequate performance of one's social roles and other unpredictable and disturbed patterns of behavior. However, to the extent that this model is applied, the disturbed and ineffective behaviors are not in and of themselves worthy of much attention, since it is presumably the underlying disease which produces them. Therefore, treatment tends to follow two typical patterns: (1) in cases where the "disease" is not immediately curable (schizophrenia, for example), psychotropic drugs are prescribed to alleviate the symptoms which impede social functioning; or (2) complex techniques are devised to get "inside the person's head" in order to uncover and cure the disease, such as long-term psychotherapy, hypnosis, elaborate diagnosis and testing, etc. Without a doubt, both of these techniques follow from a medical model and are predicated upon a physician-patient relationship.

Throughout history, each major theory of psychopathology has been accompanied by at least one strategy for the treatment of the problem (Bloom, 1973). It is not surprising, therefore, that the emergence of an alternative view of psychopathology has served as the impetus for the community mental health orientation. In contradistinction to the traditional medical view, the proponents of the new approach assert a psychosocial model of health and disturbances. Psychopathology is seen as emerging out of a social setting and is, therefore, learned social behavior which is capable of being unlearned in a different social setting. This explanation of disturbed behaviors is close to being a direct reversal of the prior one. That is, in this case a dysfunctional social environment is seen as subsequently producing dysfunctional or disturbed behaviors. Perhaps even more important, manifestations such as depression, anxiety, etc., are the result rather than the cause of disturbed or ineffective patterns of behavior. In this approach, presumably, the concept of an underlying disease is totally irrelevant. To the extent that this model is applied, the treatment (or mental health intervention) tends to follow two primary strategies: (1) the reduction of sources of stress in the social environment or setting, such as destructive family relationships; and (2) the alteration or unlearning of the disturbed behavior patterns which impair social functioning. That is, in this case the ineffectual behavior is the primary focus for treatment rather than the disease or its symptoms. Following from this conception, the major alternative to the physician-hospital-clinic-centered program was to be the community mental health center.

Implementation of the Ideology

It took years of debate and thoughtful planning, including the recommendations of the Joint Commission of Mental Illness and Health (1961), before the idea of the community mental health center started to be implemented. Then, in 1963, the President delivered a landmark address to the U.S. Congress proposing a national mental health program; and the same year federal legislation was passed to authorize the States to construct comprehensive community mental health centers. As for the centers themselves, it was required that they provide five essential services: inpatient care, outpatient care, emergency services, partial hospitalization, and consultation and education. Eventually five additional services were to be added: diagnostic services, rehabilitation services, pre-care and aftercare services, training, and research and evaluation. Moreover, the unwritten intent behind this legislation was that mental hospitals as they existed at that time were to be virtually eliminated and replaced by the centers as soon as possible.

Although the emphasis on community rather than institutional care, the focus on a total community and on prevention, and the emphasis on long-term planning by the local community were controversial positions, the most innovative characteristic of the community mental health center was to be its comprehensiveness. (Even now general health services in this country are unevenly distributed, uncoordinated, and differentially accessible to various segments of the population.) Yet the development of mental health services was to be guided by this all-assuming concept of "comprehensiveness." This notion was taken to mean not only the prevention and prompt treatment of all types and degrees of mental disorders among the total population, but also that continuity of care would be provided among all elements within the community mental health center. And it was this goal which produced what still remains the greatest challenge to community mental health delivery systems. There is a need to develop the types of coordinating mechanisms between units in the mental health network which would make comprehensive mental health care a reality. Although the language of "systems" was not often used, (at least not at first), what most seemed to have in mind was the bringing into being of a mental health delivery system, rather than just a congeries of related but not integrated agencies and organizations.

The problem of coordination was further complicated by one other dilemma confronting the developing community mental health orientation. This had to do with most of the personnel involved in implementing the ideology. Many were trained in the more traditional approach to mental health. Thus, it soon became evident that the community services would, like the previous institutional care, continue to be under the intellectual if not operational direction of physicians, at least at first. In addition, most other mental health professionals involved with community mental health programs had clinical training, rather than community-related experiences and skills. Thus, while it was evident that the new approach aimed to invest more in working on and in the social setting in which disturbed people are involved, and to count less upon the effectiveness of isolated therapeutic efforts, appropriate techniques for the latter still remained to be fully developed,

legitimated and disseminated among the involved professionals. Indeed, in the early 1970s there was a pervasive sense of uncertainty regarding just how the mental health professional operating in the new approach was to go about the somewhat elusive task of changing social systems, short of pushing for massive social reform movements or instigating full-scale revolutions. There were no traditional or fully accepted ways of how to go about altering the social order. Obviously when there are different units within a given network or system for delivering mental health services, when the personnel of these organizations and agencies have radically different and often conflicting perspectives on treatment strategies because there is no consensus on procedures to follow, and when some of the key personnel in the system have backgrounds and training more suited to an older approach, there are likely to be serious problems of coordination.

However, despite all the indicated difficulties, with the passage of the 1963 federal law signifying the triumph of the new mental health ideology, the community mental health orientation has increasingly gained pre-eminence over the more traditional approach. Criticism has not stilled and along some lines the old medical model has been pressed with great vigor. Nevertheless, the dominance of the new perspective is reflected in the growing emphasis on community services in state-wide mental health delivery systems throughout the country.

Having thus briefly depicted the overall defining characteristics of the community mental health approach, we now turn to describing the community mental health delivery system in the state of Ohio. This provides a context for understanding the mental health delivery system existing in the Xenia area, since much of it is structured by state law. Equally as important, this discussion will introduce the larger context within which the particular conditions generated by the tornado were operative.

The Community Mental Health Delivery System in Ohio

The community mental health delivery service system that has been established in Ohio differs in one major respect from what might be called the national guidelines. The kinds of services that are offered are actually almost identical to those specified in the federal legislation. However, the state has created a different kind of social organization to deliver the services, a local coordinating board with specialized subagencies, whereas the federal law envisioned one overall community mental health center. The difference is more than a semantical one between the words, board and center; it reflects a difference in social organization.

The Law and Mental Health Services

The development of a community mental health delivery system in Ohio was started fairly soon after the passage of the relevant federal legislation in 1963. It had its formal beginning in 1967, with the passage of the Community Mental Health and Mental Retardation Act, known as Amended House Bill 648. When the 648 law was enacted, there were 19 state mental

institutions operated by the Ohio Department of Mental Hygiene and Corrections (which became the Ohio Department of Mental Health and Mental Retardation in 1970). Insofar as community-based services were concerned, there were only 38 outpatient diagnostic and treatment facilities within the entire state, and most of these were funded primarily as extensions of the state mental hospitals. In addition, 12 community mental health centers had been established under the 1963 federal Community Mental Health Centers Construction Act, prior to the 648 law. However, it was evident that the availability of comprehensive mental health services, as an alternative to institutional care, remained uneven across the state in spite of the existence of these 12 centers.

Therefore, in 1966, a task force composed of professionals, concerned citizens, and some researchers was formed to study and propose a model for community mental health services in the state of Ohio. The findings and recommendations of the group eventually resulted in the enactment of Amended House Bill 648. This law mandated the establishment of community mental health and retardation service programs throughout the state in any county or combination of counties having a population of at least 50,000 people. In addition, for each service program, a mental health and retardation (648) board would be set up to act as the administrative and policy-making body for the county-wide (or joint county) services.

The 648 Board consists of local citizens appointed by the county commissioners and the Commissioner of the Division of Mental Health in the Ohio Department of Mental Health and Mental Retardation. In general terms, these boards are responsible for assessing the mental health and retardation needs of the community and for planning and implementing services to meet these needs. In addition, since under the law the state reimburses the county for only 75 percent of the operating expenditures of the service program, the 648 Board is also charged with raising the additional 25 percent of the local matching funds necessary for the provision of the community services. However, while the local 648 Board performs the planning, coordination, funding, and evaluation functions of county-wide (or joint county) mental health service delivery, the actual delivery of services is the function of semiautonomous agencies which enter into contractual arrangements with the 648 Board. Only in unusual and temporary situations would a board itself directly operate service programs.

It was, therefore, through the establishment of this type of structural arrangement that the state of Ohio chose to implement the basic objectives of community mental health. By 1975, there were 54 such boards set up in the state, covering all of the 88 counties. In comparing the characteristics of the type of mental health delivery system proposed by the 648 law to those of the community mental health orientation set forth in the federal act discussed earlier, the similarity is evident. The emphasis of the 648 programs is on the total community, on service in the community, on prevention, on indirect services, on rational planning, community control, etc.

At first, a sharp demarcation was drawn between the state mental hospital system and the community-based 648 programs. On the one hand, the management, funding, and coordination of state institutions was retained by the state. In contrast, the state's function with respect to the community programs was more limited due to the authority which had been delegated to the local 648 Boards. That is, the state's role was primarily to coordinate and supervise the various community mental health and retardation service programs in order to ensure that they meet the overall objectives established by the 648 law. The Division of Mental Health in the Ohio Department of Mental Health and Retardation is responsible for this task, which includes defining and recommending minimum standards for programs and personnel, reviewing and accepting overall community plans for funding, along with conducting research and evaluation, licensing facilities, providing consultation and educational services, etc.

However, in 1973, a restructuring of the state mental health system occurred when the governor established official service districts within Ohio in an effort to decentralize all functions of state government. The ten mental health service districts are relatively consistent with the other official state service districts for health, education, transportation, etc.; and the overall state plan was designed so that its districts coincide, more or less, with the newly established federal service districts. Therefore, this move created an intermediate structure between the local community mental health and retardation boards and the State Division of Mental Health. While the total responsibilities of the district offices are still unclearly specified, their primary function is to promote and coordinate planning in the service districts, with a particular emphasis on coordinating the services of state institutions with the various community programs. This was deemed necessary because over the past ten years there has been a dramatic and continuous decrease in the resident population of the state institutions. But the concomitant development of alternate community and institutional services has failed to occur as rapidly. The primary intent of the restructuring was to facilitate comprehensive continuity of care throughout the total mental health system by removing the preexisting structural barriers imposed between the state hospital system and the community-based services. However, while this serves to further decentralize the state hospital system, thereby making the institutions more responsive to and better integrated with the community services, the district structure at least implies some loss of autonomy for the local community mental health and retardation programs.

In summary, an examination of the state mental health system in Ohio suggests that its goals and characteristics are directly traceable to the community mental health orientation. Even more specifically, the services which are to be delivered under the community programs have been interpreted by the state to include the same services that community mental health centers are to provide under the federal law (i.e., inpatient care, outpatient care, emergency services, partial hospitalization, consultation, education, diagnostic services, rehabilitation services, pre-care and aftercare services, training and research and evaluation). The state law certainly reflects the community mental health ideology insofar as services are concerned.

The Law and Mental Health Social Organization

There is one basic difference, however, between the idea of community mental health centers as espoused in the ideology and the federal law, and the 648 Board arrangement as set up by the state of Ohio. This difference has profound implications for the coordination of services and integration of agencies involved in the provision of mental health care. The services delivered in both cases are roughly the same, but the social structures or arrangements to deliver them are rather different.

In the case of the community mental health center, presumably the entire range of comprehensive mental health services are delivered by a single organization. Thus, while there is a division of labor within the center based on the differentiation of roles and tasks (such as crisis intervention, outpatient treatment, administration, planning, etc.), the multiple units operate within the same authority structure. To the extent that decision making regarding treatment priorities, policies, etc., is highly centralized in this type of configuration, the autonomy of the sub-units is reduced. Of course, conflict and competition may occur between units within this type of structural arrangement. But coordination of services is less problematic when the services are organized under a single authority pattern, especially to the extent that regulations, policies and procedures are standardized among the units and formalized (i.e., written down). In fact, the federal legislation was emphatic in this regard since the interdependence of services, rather than their autonomy, is assumed to be directly related to the entire concept of comprehensive continuity of care. To ensure coordination of services, the law specifically outlined regulatory requirements which would all but eradicate the boundaries between service units in the center through the willing exchange of clients, staff, and information regarding clients. In short, what one has under the concept of a mental health center is a highly integrated delivery system with all parts also tightly integrated into the controlling core.

There is an alternative to this type of intraorganizational mental health delivery system. It is one found in Ohio and some other states where emphasis is on an interorganizational system. Thus, in Ohio the system that exists for the delivery of community mental health services is an arrangement whereby the 648 Board contracts for the delivery of services with semiautonomous organizations or agencies having their own administrative and policy-making boards. Given the continued diversity of perspectives regarding mental health care, one way of assuring that a variety of different views and specialized treatment strategies will be retained is to put them under separate organizational structures (Litwak and Hylton, 1962). However, when multiple and semiautonomous, specialized organizations with different goals and techniques are required to operate within the same mental health system, coordination becomes a strategic problem. Or, even if the agencies hold relatively consistent perspectives, there are limited resources for maximizing the objectives of all the agencies while simultaneously providing the full range of comprehensive services. In short, a situation of potential conflict is practically inevitable.

In Ohio, the assumption is that the local 648 Board will prevent the conflicts and coordinate the activities of the different parts of the community mental health delivery system. Local boards do have statutory control functions which are consistent with a highly interrelated intra-organizational structure similar to that of community mental health centers. They have formal authority with respect to planning and the allocation of resources including funding, the establishment of priorities for services, the evaluation of services delivered, and the development of links between the service agencies. But the law also allows for a degree of decentralization through the organizational autonomy of the multiple service delivery agencies. To the extent that the 648 Board institutes standardized policies in addition to controlling the resources and activities of these agencies, centralization of authority may be further increased. Yet under this structural configuration, the agencies more or less retain maximum discretion to alter their treatment strategies as long as they provide the basic services specified by the 648 Board. A consequence is that under the concept of the 648 Board one has a relatively weakly integrated delivery system with all parts nominally but possibly not actually being coordinated.

In comparing the characteristics of the intraorganizational community mental health center with the type of interorganizational delivery system existing in Ohio, it is evident that the advantages of one are the limitations of the other. Specifically, the latter arrangement is conducive to greater flexibility as a result of the routinization of change through mandatory and periodic planning; it facilitates a greater responsiveness to public views due to the opportunity for citizen participation on the decision making bodies of both the agency and the 648 Boards; and it encourages a variety of divergent perspectives regarding the explanation and treatment of mental disorders. However, this type of mental health delivery system produces a functional paradox insofar as other major objectives of the community mental health orientation are concerned, since this structural configuration is conducive to competition and conflict, as opposed to coordination.

Incorporation of Existing Mental Health Programs and Groups

The passage of the bill creating the 648 Boards was the formal beginnings of community programs throughout the state of Ohio. However, prior to this legislation, as already noted, some communities had organized public or private mental health programs that had existed for several years. For the most part, these services which predated the 648 Boards were given in outpatient clinics (typically called Guidance Centers), or in some cases there were full-fledged community mental health centers. Due to the important role that the outpatient agency still assumes in many community mental health programs, it is important to note how these clinics developed, what they did, and factors involved in their incorporation into local mental health delivery service systems.

The rapid proliferation of Guidance Centers throughout the country in the 1950s can be traced to two developments. First of all, in 1946 the

National Mental Health Act was passed in Congress. This legislation created the National Institute of Mental Health, encouraged the designation of an official mental health authority in each state, and inaugurated a state grant-in-aid program to develop and improve community-based mental health services. The services developed tended to be outpatient clinics. Secondly, major developments in psychopharmacology produced new tranquilizing drugs for the care of the mentally disturbed which relieved their symptoms and, even more importantly, allowed the previously committed to be maintained in the community. This treatment strategy found a welcome reception among the newly forming outpatient clinics; in fact, it made them possible. Treatment in outpatient clinics is now rather widely accepted, except among the most extreme advocates of the community mental health approach who reject chemotherapy due to its association with the medical practice model. However, at the time, this was not only a radical perspective, but one that was held by its proponents with a religious fervor quite like that which characterizes the current, more ardent supporters of the community mental health approach. In time, evidence was accumulated through research, transforming the approach into a scientific tenet rather than a religious one (Pasamanick, Scarpitti, and Dinitz, 1967).

At first, these outpatient clinics were envisioned as extensions of state hospitals, since their primary function was to provide immediate and intensive care for acutely disturbed mental patients in order that they could remain in the community. This was typically accomplished through the combined use of chemotherapy and individual psychotherapy. However, from the very beginning, these clinics were inclined to expand their services to other types of clients exhibiting less serious disorders. Irrespective of this, the agencies somewhat consistently operated under a medical practice model, and most of the clinics were under the direction of psychiatrists. In cases where the disturbance did not warrant the use of psychotropic drugs, the primary treatment technique was usually long-term individual psychotherapy.

However, the same social and ideological issues which were soon to find their expression in the new community mental health approach began to influence the outpatient clinics in the mid-sixties. In fact, these issues were partly raised in reaction to the medical model which prevailed in the outpatient clinics, or Guidance Centers. Questions were asked as to whom should be served by such agencies, what types of treatment should be provided, and how the treatment could be best provided. Yet this self-examination only infrequently resulted in innovation. And even when new services were instituted (such as consultation, group therapy, education, etc.), emphasis usually continued to be placed on long-term individual therapy.

When the 648 Boards were developed in the state of Ohio, efforts were made to incorporate various existing programs and groups into the newly developed local community mental health delivery systems. Usually this was done by a 648 Board giving a contract, for example, to a Guidance Clinic to continue some part of its previous program. However, this incorporation did not always proceed smoothly. One psychologist interviewed by DRC noted:

There are many localities in which agencies have existed for very long times, as a long tradition. They depended on the state to some extent for funding, but that was only a financial kind of bond or control that they had. The state never said anything about programs or any of that jazz. So, they were essentially operating in a very old kind of fashion. Now all of a sudden, the 648 Board is created and is given responsibility for running this whole show. And all of a sudden these agencies that were nice independent groups in the past have someone on the local level that they have to answer to not only for funding, but for some degree, program development. If you want a new program approved it has to go through the 648 Board to get their stamp of approval. Now the state (in the past) didn't really interfere too much as far as programming is concerned.

Thus, their pre-648 Board existence, the traditional ways that had developed of doing things, and the degree of local social and political influence acquired, all made incorporation of older programs and groups into the larger community mental health delivery system often difficult (Wenger, 1974).

The emergence of 648 Boards resulted in a subsequent loss of authority for these agencies in several areas of decision making, which included not only funding, planning and coordination, but also the discretion to designate just what services the agency would perform without collaboration with a 648 Board. Especially in the case of older Guidance Centers, the loss of autonomy had serious implications since there is an implicit ideological discrepancy between the Centers' medically oriented mental health conceptions and the conceptions of mental health involved in the community mental health movement. Nonetheless, little by little, many old agencies and programs were eventually taken over by 648 Boards. Since Guidance Clinics and the handful of (federally funded) mental health centers were the two major obvious organizations, they were most often those subject to an attempt at incorporation into the newly developed community mental health system.

Thus, by 1974 there were roughly two kinds of general patterns observable around the state of Ohio insofar as mental health delivery systems are concerned (ignoring for the moment variations within each pattern). There was the pattern typical of many smaller counties or combinations of small counties, and probably the type most prevalent in the state. This is a situation where a 648 Board has linked almost all of the organized mental health-related agencies and programs to itself, so that its overall activities do constitute for the most part the organized mental health delivery system in that community. On the other hand, a somewhat different pattern can be found elsewhere, especially in the larger counties of Ohio. A 648 Board exists in these areas also but there are mental health organizations effectively outside of its control and coordination, and the delivery system organized around the 648 Board provides only some of the organized mental health services in that community. In large urban complexes, for instance, it is typical for many private groups and programs such as the Rape Crisis Center, the Interfaith Counseling Centers and most

church counseling activities, college- and university-based psychological services, etc., to be rather completely outside of the 648 Board framework. Therefore, it is important to understand the specific mental health delivery system which existed in the Xenia area just prior to the tornado, and it is to its depiction that we now turn.

The Greene County Community Mental Health Delivery System

The history of community mental health in Greene County is very short. Prior to 1968, very little of a formal nature existed. There were but three mental health and retardation programs carried on by organizations. Only with the passage of the state law in 1967 did there come about a rather large increase of programs and organizations involved in the development of a community mental health delivery system.

The Pre-1968 Situation

The first mental health group in the county was the Greene County Mental Health Association which was organized by a group of concerned citizens around 1950. The association was strictly a volunteer membership organization established with the objective of advocating "good mental health and preventing mental illness." To do this, the group saw themselves as the major instigators of mental health services in the county which, at that time, had none whatsoever. Although the association was never accepted as a participating agency of the United Fund, funding was received from the Health and Welfare Planning Council. Through this, the organization was eventually able to hire a full-time executive secretary and to obtain office space.

The second service established was the Happy Times School. It was brought into being in 1952 by the Ohio Department of Mental Hygiene and Corrections, (predecessor to the Department of Mental Health and Mental Retardation) and served as a public school for retarded children. (For historical reasons, as the state department name and the 648 Board titles indicate, mental health and mental retardation were handled together in Ohio and were not separated until 1967.)

The third and most important mental health service which existed prior to the 648 legislation was, as already noted, the Greene County Guidance Center. This agency was incorporated in 1956 as a private, nonprofit outpatient diagnostic and treatment service for children. However, a few years later the agency expanded its services to the adult population as well. At that time, it assumed treatment strategies which were relatively consistent with those of Guidance Centers developing throughout the country. Prior to the establishment of the 648 Board, the Center's primary sources of funding were through the local United Fund and directly from the Ohio Department of Mental Hygiene and Corrections.

The Post-1968 System

Once the 648 legislation was enacted, the state charged local communities with developing and submitting comprehensive community mental health plans which would meet the requirements established under the law. Included also was the task of setting up the mandatory Community Mental Health and Retardation Boards. In Greene and Clinton counties, this decision-making process was carried out by the staff of the Mental Health Association, the Health and Welfare Planning Council, and the United Fund in consultation with other existing health, mental health, and social service agencies. In 1968, the first 648 Board was appointed. Included on the board were many individuals who had previously been active in organizing both the Guidance Center and the Mental Health Association. Since this was to be a joint service program, serving two counties with a total combined population of 125,000, there were delegates from both counties on the Board.

Then, in 1969, the first community mental health plan was submitted for state approval and funding. Under this initial plan, the 648 Board had only one contract agency, the Guidance Center. While the law made the operation of an outpatient diagnostic and treatment service mandatory, it also required that the Board eventually administer at least one other service facility in order to receive state operating funds. However, for the time being, the decision was made instead to expand the services of the Guidance Center to include community consultation and limited emergency services in conjunction with the county hospital. In addition, in order to extend all of these services to Clinton County, the Center set up a satellite outpatient clinic in that area. Thus, in the short run, this one pre-existing agency was to remain the sole provider of mental health services; however, the long-run plan was to begin implementing the full gamut of community services in the two-county area.

Faced with the broad responsibilities and regulatory powers set forth by the law, the Board selected an executive director in 1970. At that time, other than being a conduit for state funds, the newly formed 648 Board was viewed primarily as a public relations agency by most sectors of the community. However, it had been delegated the more extensive responsibilities of planning, funding, administering, coordinating, and evaluating community mental health programs.

Once the executive director was appointed, the Board began to actively assume its planning function. Gradually additional services were organized. For the most part, until the mental health levy was passed in 1973, decision-making regarding service priorities was influenced by three major factors. The first of these were the concerns of special interest groups involving either a particular problem area, such as drug abuse, or a particular target population, such as the aged. Secondly, certain sectors of the community were dissatisfied since while new services were promised, they were only provided on a limited basis, and when actually delivered were not done well. Finally, the amount of local funding was limited and unpredictable since the county had no mental health levy. Consequently, the type of

planning which occurred at first tended to be sectorial, resulting in a service network which promoted the interests of specific target populations or service agencies, rather than one which conformed to the overall objectives of comprehensive community mental health services. However, as will be discussed later, once the mental health levy was passed, this orientation to planning changed.

All of the above factors set the pace of planning for a community mental health delivery system in the Xenia area in the six years prior to the tornado. But different groups became part of the system on a staggered basis. Capabilities were added to the system as demands increased or changed.

1. The Guidance Center. Over the years, the first contract agency, the Guidance Center, consistently attempted to shift its philosophy and to diversify its services in response to community demands. That is, it changed its capabilities so that more emphasis was placed on short-term and group therapy than in the past with a concomitant de-emphasis on lengthy diagnostic procedures. Indirect services, such as prevention and consultation, were being increasingly demanded from the agency by various institutional sectors of the community, such as the schools, the courts and the medical community. Since the agency was operating under professional and ethical standards regarding the confidentiality of client records which were closely associated with the medical practice model of psychiatric casework, these groups were frequently dissatisfied with their interaction with the agency. To them, continuity of care depended on the Guidance Center's willingness to exchange at least a modicum of information about a client in order to assist them in working with the person, even if at times this amounted simply to whether or not the person had followed up the referral. However, requests for this type of consultation were often viewed by the Guidance Center as being in direct conflict with their own ethical standards and, understandably so, in light of the agency's traditional emphasis. In short, the agency, like other outpatient clinics throughout the state, was finding the transition to the community mental health service model to be a slow and difficult process.

Apart from these problems, the agency's priority remained that of providing direct services since they were the only organization so doing. And in order to expand these services to other localities, a second branch was opened on a limited basis in another city in Greene County.

At the time of the tornado the personnel of the Greene County branch consisted of the executive director (a clinical psychologist who also carried a clinical caseload), a part-time consulting psychiatrist, four social workers, one part-time mental health technician employed also at the Day Treatment Center, and three clerical and administrative staff. The agency's average monthly caseload during the six months prior to the tornado was about 450 clients, with an average of about 15 new admissions each month. To some extent, the monthly caseload is not an accurate reflection of the quantity and quality of service delivery, since all cases are not active ones, and since the type of service rendered to each client may range from a telephone referral to group or individual therapy.

2. Yellow Springs Encounter, Inc. After the Guidance Center, the second contract agency to receive funds through the 648 Board was Yellow Springs Encounter, Inc. This agency was originally organized and financed by a group of local citizens concerned over drug abuse in their community. But in 1971 funding was sought and received from the 648 Board. While the program started out solely as a treatment modality for drug users based on the nonresidential therapeutic community service concept of New York Encounter, it gradually broadened its focus to include alcoholic rehabilitation services. Other treatment strategies were also incorporated, such as individual counseling, group therapy, consultation, etc. At the time of the tornado, Encounter had four staff members, all of whom carried clinical caseloads. Although most of the staff members had graduate degrees in mental health-related fields, prior participation and success in the therapeutic community appeared to have been a more important criterion for being given these positions.

Since its inception, the agency's caseload has increased consistently, primarily as a result of the expansion of services. The average monthly client enrollment in 1974 was 63; and, as of February 1975, the caseload was 85. Although agency record keeping is practically nonexistent with the exception of basic intake and termination information, the program reports somewhat impressionistically that the average age of its clients is 25, with 40 percent being male. A majority of the clients served are referred by other clients. But this is to be expected given the nontraditional nature of the program.

3. The Crisis Center. The third agency to receive funding through the 648 Board was also a drug agency. Consistent with the growing community interest and demand for drug-related services, in 1970 the 648 Board stimulated the organization of a drug council composed of concerned citizens and agency representatives. After considerable debate, the recommendations of this group led to the formation of the Crisis Center in Xenia. At first this agency was conceived solely as a hotline drug treatment program. But in part due to the variety of services demanded from their clients and in part as a result of the staff's basic orientation to drug treatment, the telephone crisis intervention and referral service was generalized to almost any conceivable type of personal problem. The majority of the calls received could be categorized as being information, personal problems, legal problems, pregnancy and other sex-related matters, family problems, and of course, drug-related problems. In addition, the agency operated a separate backup line for the Guidance Center during hours when that agency was closed. Even though the bulk of the agency's services is the telephone crisis intervention, the full-time staff at times offered limited crisis intervention services to walk-in clients, as well as limited consultation services to local schools, law enforcement and social service agencies.

Just prior to the tornado, the program had two full-time staff members and a corps of 25 unpaid trained volunteers. The average monthly caseload varies seasonally between 350-600 calls. The ratio of female to male callers is over 2:1. However, sheer caseload data of this type does not accurately reflect the myriad of intervention strategies sometimes employed by this agency. Such unrestrictedness is facilitated both by the informal and

flexible structure of the Crisis Center and by a basic human service orientation to service delivery.

4. United Health Foundation Drug Education Program. Working closely with the Crisis Center is the fourth contract agency, the United Health Foundation Drug Education Program. Although this service was first developed and supported financially by the United Fund in 1972, it is allocated appropriations from the 648 Board for the provision of basic drug education and consultation services. The services delivered consisted of training sessions and programs offered to the public, the police, schools, churches, social service agencies, and other community groups. These were geared toward educating various sectors of the community about drugs, drug abuse, and the resources available for preventing and treating problems associated with the use of drugs. At the time of the tornado, the agency's staff consisted of two persons, the executive director and a clerical person.

Since the UHF program was housed in the same facility as the Crisis Center, the two agencies exhibited a high degree of cooperation and sharing of personnel, information, and other resources in carrying out their activities. In effect, the two groups operated, for the most part, as if they were virtually one organization.

5. Yellow Springs Senior Citizens. The fifth agency to enter into a contract with the 648 Board was the Yellow Springs Senior Citizens. Previously this agency had been an outgrowth of the Commission on Aging, itself a division of the Department of Mental Hygiene and Corrections. However, consistent with the restructuring of the state mental health system, it was directed to seek funding through the local 648 Board. In 1973, the senior citizens group was incorporated in the community mental health service network. Since that time, they gradually expanded their services to include other communities in the area through the home and institutional visitation and outreach program. Functioning primarily as a preventive mental health program, the agency operated with a basic human services approach by providing a gamut of services to the elderly, such as transportation, recreational programs, community service projects, referral services, and limited counseling.

Prior to the tornado, there were four staff members employed at Senior Citizens: the executive director, a secretary, a community service worker, and an outreach caseworker. The average monthly caseload was approximately 120 clients. Yet such figures do not accurately reflect the quantity or quality of services rendered, since activities like visiting nursing homes, sponsoring parties, etc., are not easily quantified in this way.

6. The State Hospital Aftercare Program. The sixth service incorporated by the 648 Board was an aftercare program for patients released from state mental hospitals. This project was conceived by another citizens' planning committee organized by the Board, and was instituted in 1973. The purpose of the project was to provide coordinated continuity of care to ex-hospital patients in order to facilitate their reentry into the community. Three agencies delivered the aftercare services: nurses from the Public Health Department conducted home visits to clients, administering injections

and evaluating progress; the Guidance Center offered psychotherapy, medical supervision, and consultation to the nurses; and a case manager employed as a 648 staff member coordinated all aspects of the project with the State Hospital, including making referrals for any additional services necessary to the patient's readjustment. The average yearly caseload of this program was approximately 20-30 clients, which involved around 250 home visits by the public health nurse. For the home visitation component of aftercare, the County Health Department received funding for one nurse through the 648 Board, thereby making them the sixth contract agency.

7. Emergency Psychiatric Services. Another need that became apparent was that of short-term inpatient and emergency care. To provide this, Greene Memorial Hospital became the seventh contract agency during fiscal year 1974. Essentially, this service had three components: the provision of limited psychiatric evaluation for patients admitted to the hospital emergency room; short-term inpatient psychiatric care on a limited basis; and follow-up treatment services supervised by the 648 aftercare coordinator.

The program was intended to operate in the following way. Patients admitted to Greene Memorial Hospital through the emergency room who were diagnosed as requiring psychiatric services by the attending physician would be referred to the psychiatrist or another mental health professional at the Guidance Center. In turn, this agency was to assure that one of its staff members would be on call 24 hours a day, 7 days a week to perform these services. Two beds would be set aside by the hospital on a regular basis for those who were designated by the Guidance Center worker as needing limited inpatient psychiatric services (i.e., less than seven days). Once this initial evaluation of the patient's treatment needs was made, the alternate care coordinator of the 648 Board would be responsible for coordinating the patient's aftercare in the community. This would include routine consultation with the Guidance Center staff member assigned to the client regarding the person's treatment needs, making the appropriate referrals to assure that these needs were being met, and maintaining ongoing contact with the client.

While the service was envisioned as serving about 15 persons a month, the caseload tended to be somewhat less than what was anticipated. This is particularly true insofar as the short-term inpatient hospital care was concerned. Moreover, as might be expected, having so many separate components involved in the service delivery led to considerable ambiguity among the various organizations and sometimes even outright conflict between them. Typically, the source of conflict was over the Guidance Center's unwillingness to share diagnostic and other information about clients with the referring physicians, an exchange which they felt was necessary to facilitate their own treatment of the person. In addition, conflict was frequently manifested between the 648 Board and the two other components of the program. While the factors responsible for this were varied, there was one primary and built-in source of contention. This was that the 648 Board was engaging in direct service delivery through its own staff, i.e., the alternate care coordinator. In effect, the appropriateness of this arrangement was questioned on the grounds that the administrative (648) agency was assuming responsibilities which ought to be carried out by a contracting service agency.

Although not all board members were professional people (one member was a farmer and a few others were housewives), all had exhibited a strong interest and involvement in the area of mental health care. For instance, almost all were associated with local mental health associations and several of those in occupations not specifically related to mental health had nevertheless, had significant training in that area. Compared to many other 648 Boards throughout the state the Greene County group appeared to have had a stronger background for their position than is typically the case.

10. The 648 Board and Staff. Prior to the tornado, the board consisted of 15 members each serving four-year terms. As specified by law, one-third of the members were appointed by the State Commissioner of the Division of Mental Hygiene. Of the remaining ten, three were named by Clinton County commissioners and seven were Green County appointees. There were four physicians on the board, including one psychiatrist and one pediatrician. Three of the board members were or had formerly been school teachers while two other members were currently professors of psychology at nearby colleges. In addition, one of the representatives was a minister and one, the designee of the probate judge, was a lawyer.

In summary, prior to the tornado, the Greene County Board had nine contract agencies involving one outpatient clinic and its two branches, three drug-related services, one program for the aged, an emergency psychiatric service, two aftercare services, and a mental health service for families of mentally retarded persons. It was, of course, the responsibility of the board to plan, coordinate, fund and evaluate the different programs. This was primarily done for the board by its staff.

9. The Greene County Council for Retarded Children. The final 648 contractual arrangement was with the Greene County Council for Retarded Children. Under the agreement, the Council provides a "respite" care service to developmentally disabled persons in such cases as when their families are temporarily incapable of providing adequate care for them. Funding through the 648 Board is justified on the rationale that this is predominantly a preventive mental health effort aimed at the families of the developmentally disabled. (According to state law, 648 Boards are responsible for developing and approving plans for mental retardation, i.e., they have to approve the concept of treatment. They have, however, no responsibility for funding treatment of the retarded except as it involves mental health problems.)

8. The Day Treatment Program. Consistent with a growing interest in alternate care, the 648 Board established a Day Treatment Program in 1974. This service was intended to serve individuals requiring more than limited outpatient care, but not in need of full hospitalization. Components of the program were varied. They included group psychotherapy, psychodrama, craft activities, discussion groups, self-help skills, and recreational activities. At the time of the tornado, the staff consisted of one full-time mental health technician and one part-time activities therapist. However, the supervision and major treatment components of the program, such as psychotherapy, drug therapy, etc., were provided by the Guidance Center. Operating only three days a week, the facility on the average served about 10-15 clients per day.

With the enactment of the 2 mill levy (which is the highest for mental health in the state), the 648 Board instigated full-scale planning efforts with the objective of instituting the entire gamut of comprehensive mental health services in the area. To accomplish this, a planning committee was established by the Board which included participants from the Mental Health Association and other local citizens. However, due to a technical error on the petition, a matter which did not serve to enhance the board's credibility, the community did not receive the relevant local tax money in 1974. This untimely error did, however, give the committee an additional year to plan the kind of delivery system that it felt was most suitable for the two counties involved, Greene and Clinton. In order to proceed toward this, planning committee members met with various local organizations and all of the contract agencies to consider proposals and ideas. One group proposed a single Human Resources Agency; another suggested one or two mental health centers.

The Trend Towards Comprehensiveness

Two major trends were underway at the time of the tornado. There was a major ongoing move towards planning a genuinely comprehensive mental health care system. And groups and personnel providing mental health services in the Xenia area, but not part of the interrelated cluster around the 648 Board, became even less salient as a result of the first trend.

Trends in the Delivery of Community Mental Health Services

However, at the time that the tornado occurred, the entire community mental health delivery system was undergoing sweeping changes, materially assisted by the passage of the mental health levy. Due to the fact that the tornado generated demands concerning structural and functional innovations which were in progress when it struck, we will conclude this overview description of the Time One mental health delivery system with a discussion of the major shifts which were developing literally on the eve of the disaster.

Although the 648 Board was instituted in January 1968, the staff of the 648 was not formed until 1970. At this time two persons were hired, an executive director and one clerical person. No further staff was hired until 1972 when a program coordinator was added. In 1973, prior to the passage of the mental health levy, an account clerk, a community relations coordinator and training officer, and an aftercare coordinator were also added to the staff. And shortly after the tornado another clerical person and a budget director were hired making a total of eight staff members. The 648 staff, therefore, exhibited a consistent increase in size from its inception on -- a fact which reflected an increasing involvement with contract agencies.

The officers of the 648 Board consist of a chairman, vice chairman, treasurer and secretary -- making up the Executive Committee. The board also has Budget, Program and Policy Committees. Each of the committees meet separately, reviewing the activities of the contract agencies and periodically presenting reports at the monthly 648 Board meetings.

However, despite the apparent similarity between the existing and the proposed new system, there were two major changes in emphases that were both significant and controversial. First of all, the entire mental health delivery system was being moved increasingly away from the treatment focus of the medical practice model and toward that of preventive mental health based on the human services model of health and disturbance. Thus, while certain specialized and clinical treatment modalities were retained, the bulk of the new services were to be community-oriented. Secondly, in contrast to the sectorial planning that had occurred prior to the levy, the new approach to planning stressed the delivery of the full range of comprehensive mental health services, i.e., inpatient care, outpatient care, emergency services, partial hospitalization, consultation and education, diagnostic services, rehabilitation services, pre-care and aftercare services, training, and research and evaluation.

Eventually the projected kind of delivery system chosen was structured the same as the existing system, except that there were to be enough contract agencies to provide the full range of comprehensive mental health services recommended by the state. The interdependence of these services would be contingent upon coordinating mechanisms developed by the 648 Board, such as standardized policies among the contract agencies, the case management philosophy, etc. Yet, in this type of system the various agencies who have their own boards are given maximum discretion to alter their functions as necessitated by changes in discoveries and approaches in the social sciences, as long as they provide the services contracted for by the 648 Board. Further, non duplicative and noncompetitive system interdependency would be facilitated by the overall planning and coordinating body, the 648 Board.

Finally, after considerable research, the committee recommended a more decentralized but interdependent network of specialized mental health services, rejecting the concept of the mental health center as being the most suitable arrangement for delivering services in the service or catchment area. A variety of factors account for this decision. The geographic area involved has no major central city and lacks high concentrations of population. There are numerous relatively small communities, differing in their social composition and having separate governmental structures. To establish multiple mental health centers which would encompass all of the needed services would be both costly and unnecessarily duplicative, and difficult to justify to taxpayers. Similarly, the decision makers felt that to locate only one such center in a given locality would reduce the probability of adequate services being provided outside of that community. Apart from this broadly political factor affecting the decision, there was the belief that either arrangement of resources and capabilities mentioned would not provide the most appropriate delivery system for the needs and demands for services that existed in the two counties involved. The area, it was said, included a fairly large number of rather dispersed blacks, elderly and poor among others who would probably most need the mental health services being proposed.

In other words, in the past the overall program tended to be organized around the agencies which already existed. However, the new comprehensive preventive-oriented mental health plan was organized around the provision of the essential services, rather than specific agencies. Nevertheless, to the extent that there were, in fact, preexisting agencies, the plan called for a major restructuring of the prevailing pattern. In some cases, existing agencies were to rather drastically alter their functions. Others which were providing essentially the same type of service would be requested to merge under one administrative and supervisory board. Still other organizations would have to expand their services to different localities in the catchment or service area. And, finally, new agencies would be created which would, in some cases, assume some of the functions of old groups.

This plan for the future and moves to implement it set the stage for increased intraagency, interagency, and agency-648 Board conflict. This was particularly the case in those instances where groups were forced to specialize in a particular service, thereby reducing the overall scope of their operation. Indeed, throughout its existence the 648 Board and the one agency which predated it, the Guidance Center, had frequent disputes and even direct confrontation through the local newspaper concerning the changing authority structure. Consequently, as the 648 Board was, in fact, assuming its full-scale responsibilities, the situation was conducive to the generation of additional and broader conflicts. Moreover, with the passage of the tax levy, the Community Mental Health and Retardation Board had to be increasingly more concerned with accountability to its constituency. At the same time, alternative sources for funding became increasingly unavailable to the agencies, a fact which prevented them from reducing their dependency on the 648 Board for resources. Furthermore, since adequate coordination through interagency referral and communication had been lacking in the past (with some agencies entirely avoiding contact with others), the board, through its staff, began taking active measures to ensure greater interdependence among the services. Policies and procedures for the agencies, such as staffing, budget requests, program changes, etc., started to be even more standardized and formalized (i.e., written down), in order to facilitate the exercise of authority necessary to carry out the board's responsibilities.

Thus, the entire community mental health delivery system was in a major state of transition just prior to the disaster. Since the levy money necessary to implement most aspects of the plan was not to be forthcoming until January 1975, the new delivery system had not yet been instituted in April 1974. Not only had the decision been made and some steps taken, but major changes especially for operative agencies were clearly in the offing. The tornado was to inject itself into this context, affecting both the changes and the responses which were taking place in the very last phase of Time One.

The Diminishing Salience of Other Groups Providing Mental Health Services

In looking at any situation, there is a danger to see it only from one perspective, particularly from the more salient point. In the Xenia area, the 648 Board had the legal responsibility for developing a system

But there is a model that the clergy have that most people in the mental health group do not have. Most of what we do is not formal, but people do come to my office. Most of my counseling is just brief, such as curbside conversations, couples having problems in their marriages, some kid going off to jail, these sorts of things. So I might have my counseling, say, in a courtroom or a hospital, or street, in my office, in someone's home, sitting in a local coffee shop drinking coffee and someone sitting down beside me, or I'm standing on a street corner and someone walks up, or at a cocktail party. Most of it is very brief. Just a little conversation on the side here

clergyman:

All of this is perhaps illustrated in the observation of one local label, but mental health services are delivered by religious institutions. It may not be organized, and it is not always given a modern do not routinely and informally perform therapeutic (i.e., mental health) counseling caseloads, this is not to say that many of the rest of the clergy only a few licensed pastoral counselors in the Xenia area who carry psychotherapy, to this category of individuals. However, while there are professionals in an effort to disseminate mental health skills, such as paraprofessional training programs instituted by community mental health recognition of this very fact, pastoral counseling was among the first of mental health services for a particular segment of the population. In clergy still provide in any community would be to ignore a major source overlook the therapeutic function that religious institutions and the should live, once were almost the exclusive prerogative of the church. To sector performs in modern societies, those that revolve around basic human needs, major turning points in life, and the struggle with just how one be argued that some of the functions which the more formal mental health A prime example in the latter category is the clergy. In fact, it can

therapist.

though they do not claim the title of a mental health organization or work requires that they do psychotherapy a great deal of the time even vocational or industrial counselors, or organizations and individuals whose whose work is related to psychotherapy, such as marriage, educational, mental health caregivers. More specifically, there are groups of people outsiders to be that different in fact from more formal and identified if they do accept the perspective, their own activities do not appear to the prevailing perspective, and yet provide mental health services. Or are a number of other groups and individuals who do not necessarily share Nevertheless, in this community as well as elsewhere, there were and

the area. Certainly it was by far the most salient. and programs around the 648 Board was the mental health delivery system in by the response of many other sectors of the community, the cluster of agencies services. Thus, by legislative mandate, by self-definition, by ideology and definition that they were all participants in the delivery of mental health with the 648 Board, whatever their other differences, all shared a common for delivering mental health services. The different organizations involved

Any listing of service agencies would also have to include the Red Cross and the Salvation Army. These two voluntary associations not only perform therapeutic services (e.g., some family counseling) on a continuing basis, but both also have a latent but formal mental health-related function apart from their day-to-day community work. Thus, the Salvation Army considers the providing of "spiritual support and counsel" as one of its major tasks in disaster situations (Ross, 1970), while the Red Cross by Congressional charter is legally responsible for providing emergency food, clothing, shelter and medical and nursing care at times of major disasters (Adams, 1970). Subcomponents of both of these organizations operated in the Xena area prior to the tornado.

You normally think of mental health centers as getting the more disturbed situations. But in talking with the people on our own staff, I think we too see some disturbed cases, perhaps those that the mental health centers aren't seeing. I think the advantage that they have is they can prescribe medication where we can't. We have no psychiatrist or doctor on the staff who could do that, whereas they have the personnel who could. We could and do provide a number of times per week counseling sessions... That's what we're primarily set up to do. But we would prefer perhaps that they would go to an agency where they can get medication, if this is what the person needs.

Furthermore, that some of the personnel in social service organizations define some of their activities as involving the delivery of fairly clear-cut mental health services can be seen in the remarks of a "counselor" in one of the above cited agencies:

Looking more specifically at just what is meant by mental health services, a good deal of the problems which concern the contemporary therapist are those which result from the stresses and strains inherent in daily living or, as they are typically called, "problems in living" (Szasz, 1960). Furthermore, just as people display many and varied types of problems, there is a need for equally numerous and diverse kinds of help, including everything from psychotherapy to a good friend to the material necessities of life. If this comprehensive view is taken of mental health services, much of what goes on in many welfare and social service agencies can be thought of as having a community mental health function. In fact, and as we shall discuss later with specific reference to the response in the Xena tornado, much of what occurs in the name of community mental health is the provision of basic human and social services. Obviously before the tornado there was a variety of social and welfare organizations offering these types of services in the Xena area: e.g., the Public Welfare Department, Easter Seals, the Community Action Council, Welfare Rights, Catholic Social Services and Planned Parenthood, to mention just a few.

Other than the alcoholism unit of the health department, there were only two other groups involved in programs for alcoholics. The first is a local Alcoholics Anonymous (AA) group. While there is no formally chartered AA chapter in Greene County, there is a group of alcoholics and rehabilitated alcoholics who met informally about twice a month in Xenia and Fairborne. Secondly, the Greene County Council on Alcoholism was formed in 1965 by a number of citizens who were concerned about alcoholism and problem drinking in the area. The council is technically a community

Furthermore, another service which is frequently provided by formally designated mental health organizations is treatment and rehabilitation for alcoholics or problem drinkers. In some Ohio counties, programs for alcoholics are explicitly incorporated into the comprehensive 648 community mental health delivery systems. In Greene County, however, the primary responsibility for alcoholism treatment and rehabilitation rests with the alcoholism unit of the county health department. The services provided by this agency include group and individual counseling (performed in the office, the county jail, and at the hospital), detoxification, education and public information sessions, a walk-in alcoholism center, and referral for rehabilitation to the appropriate welfare and social service organizations. Prior to the tornado, the agency had four staff members: the director, a detoxification manager, an assistant to the detoxification manager, and a part-time secretary. The average monthly client case load for the year preceding the tornado was approximately 18 cases, although this is a poor reflection of the agency's activities. For example, telephone contacts, public programs sponsored by the unit, visits conducted to the hospital, jail, etc., are not accurately captured by this type of data.

Mention should also be made of private practitioners, such as psychiatrists, clinical psychologists, and other mental health professionals who offer mental health services apart from the more formally designated and public mental health delivery organizations. Most of these persons probably provide such services in their offices but some do work in private clinical or hospital settings. Since there are very few private practitioners in the Xenia area, and those that do exist tend to be part-time consultants or employees in public agencies, this was probably a very insignificant factor in pre-tornado Xenia (although it could be a very significant factor in the delivery of mental health services in other localities). There is, of course, the possibility also that some residents of Greene and Clinton counties were obtaining services outside of the area in Dayton, Columbus or Cincinnati, but again this would not appear to be an important factor in this situation, whatever its possible relevance elsewhere.

In addition, in all communities, including this one, an undetermined but substantial amount of mental health treatment remains in the hands of those physicians who continue to hold that mental disorder is a disease process no different in quality from any other disease. Hence, in sharp contrast to the techniques employed by the more formally designated mental health caregivers in the community, the therapy performed by these physicians tends to be predominantly organic in nature. But organic or not, effective or ineffective, such activities are part of the mental health services provided in any American community, and we can assume it was also so in the Xenia situation.

As a system, it was a relatively loosely integrated one. While there was nominally strong control exercised by the 648 Board, there was less

What kind of community mental health system did exist in the Xenia area just prior to the tornado? From the contexts of the ideology of the community mental health movement and the state law, there had developed a particular configuration. The community mental health system consisted of the 648 Board and its nine contracting agencies. These organizations were the parts of the system, although there were peripheral elements in the area also delivering an indeterminate amount of mental health services.

The Time One System

Nevertheless, despite all that has just been said, it is probably true that these more peripheral groups, as a result of what was happening in the more formal community mental health area, probably lost some of their saliency in Time One before the tornado. The public discussions, even the open conflicts, tended to define only certain groups and organizations and their work as mental health activities. The salient groups and activities were those related to the 648 Board. As pointed out a long time ago, the very fact of public attention, particularly if reported on by mass media organizations, tends to legitimate whatever is being reported (Lazarfeld and Merton, 1948). In one sense, the conflicts stemming from the trend towards mental health care comprehensiveness being pushed by the 648 Board reinforced and made more salient in the community which groups and what activities were associated with the label mental health. In this respect, we can say that a Time One trend was almost certainly the diminishing saliency in the public eye of other groups as being and providing mental health services.

Our brief examination of other and quasi-mental health groups in Time One, apart from the more formally designated community mental health agencies organized around the 648 Board, was undertaken to suggest three things. Whether recognized or not in the community mental health orientation, there were these other mental health-relevant demands and capabilities present before the tornado. Secondly, the needs that were being met and the resources that were being used may not have been a part of the more formal community mental health service delivery system in the Xenia area, but they of necessity affected what went on in the more self-conscious and labeled community mental health system. Thirdly, the described activities were peripheral, in the sense indicated, to the cluster of groups formally linked to the 648 Board, but the knowledge and skills involved were nevertheless a latent reservoir that at least could possibly be drawn upon if the more formal community mental health service delivery system had a sudden need. In fact, we shall later see that all three points mentioned here were operative to a degree in both the short-run and long-run delivery of mental health services in Time Two of the Xenia disaster.

was a relatively inactive group. strategies to deal with the problem of alcoholism. However, since the council was unable to obtain local funding after its state funds were terminated, it advisory board, and one of many funded across the state, to study and recommend

actual authority exercised because of the structural arrangements between the board and the contracting agencies. The semiautonomous status of the agencies in fact created considerable potential for competition and conflict.

The system also did not have a sharp division of labor. The constituent parts did not all have separate responsibilities and tasks. In fact, there was both some overlap and meshing of activities whose rationale was far from clear; and peripheral elements to the system certainly duplicated at least some of the services available.

On the other hand, the whole community mental health system at the time of the tornado was undergoing some major shifts as a result of perceived demands. The projected plan was going to make it a far more integrated system, with stronger authority in the coordinating core -- the 648 Board -- and a clearer and sharper division of labor. Furthermore, the community mental health system was becoming more salient as having the organizations with the capabilities to provide mental health services. This probably meant that peripheral elements were losing some of their saliency as also involved in the provision of such services.

How did this system respond to the tornado? What can be said about the behavior of the system in Time Two? What were the characteristics of that behavior? The next chapter attempts to answer these and similar questions.

IV. CHARACTERISTICS OF THE MENTAL HEALTH DELIVERY SERVICES

In this chapter, after a brief introduction on the general nature of system responses under stress, we discuss the characteristics (i.e., the behavior) of the mental health delivery system in the Xenia area in Time Two. Our discussion of characteristics primarily involves a depiction of who did what or which social entities provided which services. Although it is unnecessary for our purposes to detail the chronological and sequential ordering of all mental health activity in the aftermath of the tornado, we do make a rough distinction between the short-run (i.e., several weeks after impact) and the long-run response (i.e., from about the third or fourth week to about 10-12 months after impact). We conclude with a general look at the delivery of mental health services in the Xenia area by organizations peripheral to the community mental health system and also by extrasystemic groups.

System Responses to Stress

When a disaster hits any kind of social system, neither the system as a whole nor its parts (the cluster of interrelated organizations and groups) necessarily respond immediately (Dynes, 1970). For example, typically the organized elements of the leisure and recreational system in a community badly impacted by a disaster simply do not function for days or even weeks into Time Two. Movie theaters and amusement places do not open, bars and bowling alleys remain closed, social clubs do not meet, and regular sessions of hobby groups are cancelled for a long time after the disaster has struck. Furthermore, even when systems respond, not all parts necessarily respond at the same time or in the same way. Thus, for instance, there is considerable variation in when the undamaged commercial and business enterprises in a disaster-stricken locality reopen and how they go about providing services. Banks may quickly provide certain new services whereas large department stores might not open their doors until they can reestablish the full range of their usual activities. There are differences, therefore, in both the speed and in the nature of the response of different parts of various community systems.

As we shall see, in general the community mental health delivery system in the Xenia area did not respond, except for one of its contract agencies, the Crisis Center, in any major way for about five days after the tornado. In fact, from the viewpoint of actual delivery of any disaster-related mental health services, there was even a greater delay. Part of the reason had to do with a reduction in the resource capabilities of the system as a result of the tornado. But far more important, there was a lack of consensus among the 648 Board and staff and its related organizations about the extent to which there existed a demand for disaster-related mental health services.

Furthermore, when the community mental health system finally did respond in slightly later stages of Time Two, it did not react uniformly

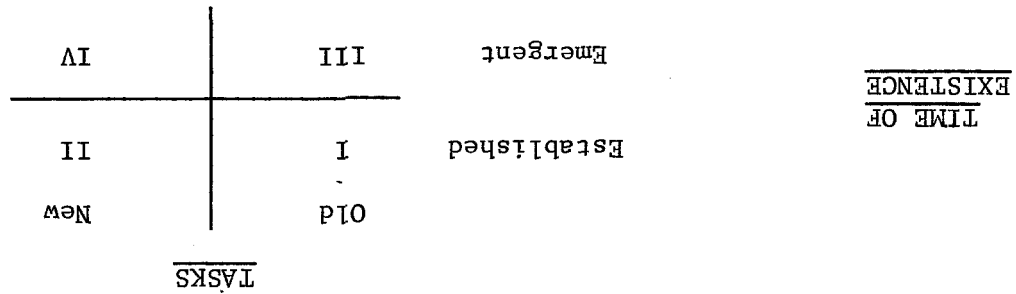


Figure 1. Typology of Organizations in Disasters

In the Xenia disaster, not all groups delivering mental health services or undertaking tasks in that area had an existence prior to the tornado; some came into being only in Time Two. Thus, we can divide all the social entities involved, the "who" that provided services, into either established organizations or emergent groups. In terms of time of existence, they were either old or they were new social entities in the sense just indicated. A similar distinction can also be made as to tasks undertaken or services provided; these could be new, novel or unusual ones or they could be old, routine or everyday activities. Therefore, any organization in this or any other disaster could be dually characterized as to whether it was an established or an emergent group and as to whether it undertook old or new tasks. Figure 1 indicates the four logical possibilities when the two dimensions are cross-classified.

An Organizational Typology

The differential response of the community mental health system in the Xenia area could be depicted in various ways. We have chosen to approach the matter in a way found fruitful in other DRG analyses of organizational and system response under stress (Quarantelli, 1966; Dynes, Quarantelli and Kreps, 1972). This is to use a typology based on criteria relevant to the problem being studied. There were differences in the speed and in the nature of the response of the different parts of the mental health delivery system. Therefore, we will use an organizational typology taking into account these two aspects.

as a whole. In fact, as we shall see, not only did the organizations linked to the 648 Board differentially respond, but the system had to generate new groups not originally a part of the system to cope with problems which existing organizations could not or were not willing to handle. Thus, the response was far from unitary not only as to its timing but also as to its nature.

of this first type. Although disasters may require an intensification of behavioral efforts, they are traditional agencies who continue to do their usual tasks, whether this is maintaining law and order or fighting fires (Kennedy, 1970). There is little change in these organizations from Time One to Time Two.

Type II organizations also have a pre-disaster existence. However, they change in Time Two to doing new and unusual tasks. They extend their activities into something rather different from their ordinary everyday routines. Building construction companies for example, after a disaster may use their personnel and equipment to engage in search and rescue activities as well as massive street and debris clearance work. Thus, old established organizations may engage in new tasks. The change in these organizations from Time One to Time Two is in the nature of the tasks undertaken.

Type III groups do not exist prior to the disaster in the form they assume in Time Two. Often they have merely a paper or latent existence which emerges only at the time of a disaster. An illustration of this type of group is the local Red Cross chapter in Time Two (Adams, 1970). Most chapters during ordinary times have a very small staff and provide certain limited services. With a major emergency, the disaster plan is activated and there frequently is an expansion into a rather large-scale organization bearing little resemblance to the previous group although perhaps providing the same general class of services such as helping people with needs. Type III groups are particularly exemplified by organizations that have disaster plans transforming them drastically from Time One to Time Two, but when the emergency is over, revert back to their rather different pre-disaster established form.

Type IV groups are those that emerge to handle new tasks. That is, they have no Time One existence; they do not exist even on paper or in latent form. Furthermore, the tasks they undertake are new and different, hardly routine and usual. Typical of Type IV organizations in a disaster are the groups or committees that come into being to coordinate overall community response handling basic problems of immediate sheltering, evacuation or feeding, or longer-run problems of housing, rebuilding and restoring community life. These are new groups engaged in new tasks.

We shall see that the mental health delivery system in the Xenta area saw the appearance of three of these major types of organizations after the tornado. Only Type III, which almost necessitates prior planning did not surface. Of course another possibility, not part of the typology, is the cessation of activity by an established organization, the failure to carry out any tasks. This also occurred, at least temporarily, in the Greene County mental health delivery system. Apart from the differential and emergent response of the community mental health system, there were also activities in the Xenta area by the peripheral organizations mentioned earlier in Chapter III.

The first task facing a community following the impact of a disaster is damage assessment. Although accurate assessment of physical damage may take weeks or months to perform, part of the task is often adequately fulfilled very rapidly and immediately by search and rescue efforts. The community learns what it has suffered by way of casualties. In the case of Xenia, by midnight, about seven hours after impact,

The Immediate Emergency Period

There were three rather vaguely distinguishable phases to the delivery of mental health services in the first several weeks following the tornado, i.e., during the period of time when the emergency was at its peak insofar as disruption of community life was concerned. Very little happened the night of the tornado or in the few days afterwards, although at least one mental health contract agency, the Crisis Center, was very active, and a number of the peripheral organizations were very heavily involved in the general response to the disaster. But for all practical purposes there was no delivery of mental health services in the immediate Time Two period. This was followed by coordinated and uncoordinated efforts to mount an organized mental health response. This was manifested in a series of inter- and intraorganizational meetings often dominated by groups from outside the Xenia area, but which also pressured the 648 staff to take a lead in the disaster response. Finally, after about a week to ten days, an attempt was made -- abortive as it turned out -- to implement a very complicated plan that had been created for the delivery of mental health services. Some planned special training of mental health workers was also finally instituted about two to three weeks into Time Two, and the 648 staff did manage to initiate some other activities. However, a major sub-component of the system, the Guidance Center, did consider many possibilities during that time, but never was able to provide much by way of actual mental health services.

The Short-Run Response

To some extent in the short run, but more so in the long run, they also provided a degree of mental health and quasi-mental health services. Additionally, mental health services were brought into or were provided from outside of the Greene County system and peripheral groups. A few such services were delivered by nearby mental health delivery systems such as those in the Dayton area. And to a considerable extent the motivation and impetus in the initial planning for local services was provided by professionals coming from district, state and national organizations. It has long been noted that disasters often lead to the massive convergence of help of all kinds from outside sources (Fritz and Mathewson, 1957). A convergence of mental health personnel and agencies definitely occurred after the Xenia tornado which was a new experience not only for the local groups, but for almost all the converging organizations too, with subsequent generation and magnification of problems for everyone.

With its telephone and building intact and a number of volunteers on which to depend, the Crisis Center was able to begin operation within only a few hours after the tornado impact. The local radio station, after being informed that the Crisis Center was operational, began broadcasting the phone numbers of the Center as a place to call

As stated earlier, the Crisis Center was the only community mental health agency that was capable of responding immediately to the tornado, since somehow a single phone line remained open after the disaster. Being primarily a drug abuse agency, it operated within a crisis intervention-telephone hot-line format. Its two paid staff members had the assistance of approximately 25 volunteers of which only a few worked at any given time.

In terms of the simplest assessments that could be made, such as damage to physical facilities, it was quickly discovered that the resource capability of the community mental health system had been severely reduced by the disaster. The Guidance Center, one of the major subcomponents of the system, was virtually demolished. The 648 Board offices themselves were also hit, forcing the staff to relocate in temporary headquarters at a church for almost six months. Almost all facilities of the system in the first few days suffered from disruption or limited electric power and telephone services, and of course in many cases, the absence of personnel. A number of the staffs had homes hit by the tornado or had their personal and family life so disrupted that they could not fully carry out their usual work roles in different mental health agencies. For the first few days there was little if any communication between the 648 staff and the 648 Board. As a matter of fact, neither outside groups such as the district mental health office nor local contract agencies were able to communicate with the executive director of the 648 staff until three days after the tornado hit.

This longer period of assessment was apparent in Xenia. It seems to have resulted from two factors: the reduced capability of the community mental health system as a result of destroyed and damaged facilities, and, more important, a great uncertainty about the real need for or demands for any relevant services. Furthermore, even if neither of these factors had been operative, it is doubtful that the system at the time of the tornado had the mechanisms to establish needs and the wherewithal to provide services if there was a demand. Several weaknesses in the system, such as the absence of an outreach program, comprehensive aftercare, children's services and a county-wide senior citizen program, had been diagnosed in Time One, and while planning to implement such ideas was underway, the capabilities for such services really did not exist at the time the tornado hit.

no further victims were found in the rubble (Troeger, 1974:31). However, the "damage" to the mental health of a community is less identifiable and more difficult to assess satisfactorily, and days or weeks may pass before information is available which can serve as an adequate basis of action.

But just as the Crisis Center provided practically nothing in the way of direct mental health services in the first few days, neither did other organizations. Various social service agencies were of course heavily involved in providing their kinds of services, and the Red Cross kept open several shelters for some time. Indirectly, it might therefore be supposed that some quasi-mental health services were probably almost accidentally provided to some victims. And ministers from various churches were consoling the families of victims, often right in the impacted neighborhoods. Actually the most direct mental health services were probably offered in a rather ad hoc fashion by a few scattered individuals who, on their own and

Within 48 hours the Crisis Center had compiled a "Disaster Fact Sheet" listing the available sources of food, clothing, shelter, medical services, etc. It worked with the Red Cross and the police in compiling a central missing persons list and took on such other non-traditional tasks as obtaining ice for the hospital and providing labor to help unload a truck carrying paint which had been donated to the area. What the agency did was a very useful and needed response to hundreds of demands, but it extended its activities into what would not usually be called mental health services. To the extent that the Crisis Center undertook new tasks in the immediate time two period, it was a Type II organization. Nevertheless, while this established agency engaged in rather novel and unusual behavior, it did not really expand its mental health services as such.

A more quantitative indicator of this temporary but radical shift in tasks is the observation that the Center had 4,134 disaster-related contacts in the month of the tornado, ten times the average monthly rate for the six months prior to the disaster. Of these contacts, 1,834 were of a general information nature (e.g., where were other agencies located?, what grocery stores were open?, etc.); 1,562 were about missing persons; and 384 had to do with legal, consumer and insurance matters. The general information contacts were 16 times as great as the number of such kinds of contacts in the previous month of March. Most of these contacts were phone calls, but about 720 requests for information came from people walking into the Center's building. The non-disaster-related contacts in the same time period amounted to 312, a figure not significantly different from the average monthly rate. But contacts (again mostly phone calls) concerned with pregnancy, suicide, depression and family problems remained quite stable through this time period, while drug- and alcohol-related contacts dropped substantially, compared with the average of the previous several months.

1973).
sometimes assume different kinds of community crises (Ponting, functions, insofar as calls were concerned, that Rumor Control Centers only about the missing. In some ways the Center took on many of the ers, as might be anticipated, did not confine themselves to asking a major source of general information as well, since dozens of call- for information on missing persons. Subsequently, the agency became

The second category of organizations taking part in some type of planning activities prior to formal meetings called by the 648 staff consisted of some of the official contract service agencies of the community mental health delivery service system. While these groups do not have the authority to engage in unilateral community-wide planning efforts, some of the agencies nevertheless attempted to forge their own response to the disaster, independent of the 648 Board and staff. The Guidance Center particularly stood out in this respect.

Prior to the key Monday meeting, there was a variety of organizations who were groping toward setting up some type of large-scale mental health services in response to the disaster. However, many of these planning efforts were undertaken prior to and totally apart from the activities of the 648 staff. For example, the first category of organizations involved in immediate post-impact planning were extra-community groups. This included both regional and federal representatives of the National Institute of Mental Health (NIMH) who were in contact with district and state officials from the Division of Mental Health in the Ohio Department of Mental Health and Retardation. Not only did this lead to the direct involvement of the state division in planning activities, but the district office located in Dayton contacted other mental health groups in that area who thereby also became involved in the effort.

Initial Planning

All in all, it seems quite safe to say that despite the active involvement of one community mental health contract agency, several major social service groups, an indeterminate number of the clergy, and a handful of volunteer mental health workers, almost no direct mental health services were provided at the start of Time Two. In fact, it appears that for several days most of the community mental health system, to the extent that it was active at all, was primarily engaged in housekeeping chores of locating new temporary quarters, securing files, and in general mostly restoring office routines. It was fully five days after the disaster, on a Monday, before efforts were made to plan and coordinate via the 648 staff an organized delivery of community mental health services in response to the disaster.

I remember going over to the Red Cross and offering my services. The place was full of people milling around. I spoke to a man from the Red Cross, I don't remember his name, and offered our services. And he said, "That's fine, but at this point we're not ready for mental health services. We need to answer the physical needs first, but we will probably be calling on you later."

Independent of one another or any group, went into some of the shelters the first three or four days. One such volunteer, a psychiatric social worker, remarked in a DRC interview:

Thus, even prior to the first Monday meeting discussed earlier, the Guidance Center suggested that any available members of the staff work in the three Red Cross shelters or centers assisting people who were experiencing serious emotional and psychological problems. Although these efforts were never formally organized, a few staff members did spend some limited time in the shelters during the first three-four days after the tornado. As it turned out, these workers reported that there was little need expressed for counseling in the centers. However, this did not really surprise the Guidance Center staff. That there had been a great deal of uncertainty surrounding the decision to work in the centers in the first place is reflected in the following remarks of one of the staff members:

I anticipated that these people working in the Red Cross Centers would be extraneous and not provide much of a service at all at the centers anyway. And I figured that the Red Cross people would be annoyed in having additional people coming around. I just figured that there would not be a need for mental health services at these places. But we had to anticipate that somebody might say "Your agency didn't do anything to provide mental health services immediately after the disaster." And there was just the outside chance that there would be people breaking down in emotional distress in the centers. We really had no idea whether there would be or not. So, on that chance, we tried to cover all bases.

Confronted with the major problem of finding temporary facilities to house the agency, the Guidance Center met as a whole on Sunday evening, four days after the tornado. As yet, no contact had been established with the 648 staff in spite of the director's persistent attempts to do so through radio broadcasts. Nevertheless, at the meeting consensus was reached on two basic strategies to be taken by the Guidance Center. First of all, realizing that their volunteer efforts at the shelter had been unsuccessful, it was decided that the agency should assume more of an outreach approach in working with disaster victims. This was in contrast to the Guidance Center's usual office-centered treatment. But it was thought that perhaps volunteers who were already making themselves known to the agency could be utilized for this rather than the regular staff. Secondly, all staff members would continue to contact and be of assistance to their existing or former clients. Meanwhile, the effort to find more permanent office space was maintained in conjunction with the agency board, although some very temporary quarters had been located. In this connection, almost immediately after the impact of the tornado the Guidance Center had contacted Yellow Springs Encounters to request their assistance in staffing and evacuating what remained of the Center's building.

Thus, these two agencies sought to some degree to develop a cooperative response to the demands produced by the disaster. We have already noted the activities of the Crisis Center. Thus, even

before the mass planning meetings were held and even prior to any formal contact with the 648 Board or staff, some of the contract agencies tried, in some cases independently and in some cases together, to develop some kind of ideas of how to respond to the disaster.

And of course myriad other organizations only peripheral to the community mental health delivery system undertook a variety of information and planning efforts on their own. These include among others such groups as the Red Cross, Catholic Social Services, local clergymen, school psychologists, Community Action Council, and Family Services. Although many of these groups eventually were included in later planning meetings held by the 648 staff, they, however, designed and undertook a considerable amount of action prior to and independent of the 648 staff in the first few days after the tornado.

Thus, prior to the key Monday meeting, a congeries of nearby and outside mental health groups, contract agencies and social service organizations had already discussed and initiated plans of action which were to have a significant effect on what was to happen. It is perhaps not amiss to note that while personnel from these various organizations did not agree in interviews with DRG about all details of who did what and when in the first five days or so, there was consensus that: (a) very little, if any, mental health services were provided by anyone; and (b) the 648 Board and staff did not provide any initiative for planning or action in that time period.

April 8 and 9, the Monday and Tuesday after impact. Representatives from national, regional, state and district mental health organizations and the two most immediately affected community mental health systems (from the Dayton area as well as Greene County) contacted each other and agreed to meet in a restaurant between Dayton and Xenia on Monday, April 8. Accounts of the meeting from different participants vary somewhat. There are some discrepancies among what was recollected in retrospect in DRG interviews by varying persons. However, there is reason to believe, partly through an examination of notes and reports made at the time of that meeting, that different participants simply saw and heard different things. There were, for example, varying views as to what topics were simply discussed as compared to the particular courses of actions that were advocated and what, if any, decisions were made. There were even different versions of who, if anyone, chaired the meeting. It is clear that many of the participants, unknowing to one another, left the meeting with somewhat different versions of what had transpired and what was going to ensue as a result of the interaction that had occurred.

Nevertheless, certain aspects of the meeting can be ascertained. Numerous topics were discussed. For example, they ranged from a suggestion to identifying oneself in the field as "crisis workers" rather than mental health personnel, to a listing of sources that might be available for funding expanded or new mental health services, to assertions that young children were the most vulnerable

In addition, there was resistance to what some of the local people perceived as considerable pressure from outsiders, who, although they had not yet even been to Xenia, were trying to force the locals to set up an immediate and radical mental health delivery system. Pressure was perceived, whether intended or not. This generated considerable resentment and resistance when it became coupled with the usual negative view that disaster victim populations and groups

There was nothing really that mental health could do for the people right away. I sort of took the position that maybe mental health people ought to take a vacation, and all of these social workers that had come over from these agencies ought to go home... I didn't feel that mental health was going to be able to help the victims.

one local participant said:
They did not believe that there was or would be a great immediate need for mental health services. They did not see a demand. As general definition of the situation advanced by non-local people. Some of the "indigenous" leaders strongly resisted the idea, despite their background and training in the mental health area. The irony in the situation was not appreciated by all the out-

Almost all of those present at the meeting had considerable experience in the administration and delivery of mental health services. But most were rather uncertain, initially at least, of what might be the appropriate organized mental health response to the Xenia disaster. That an immediate response on the part of the local community mental health system was necessary, for instance, was not "obvious" to everyone at the meeting. In fact, one of the key representatives from Xenia felt that physical needs should take priority, and that it should not be anticipated that many persons in the impacted area would have immediate need for mental health services. On the other hand, the consensus that emerged among some of the participants from the Dayton area as well as representatives from the state of Ohio was that there had been a severe breakdown in the physical, social and psychological environment and that immediate and large-scale organized action was necessary to prevent the surfacing of all sorts of mental health problems in the not too distant future. They argued for the development of a variety of new disaster-related services to be carried out under the auspices of the 648 Board and staff. In particular, the need to establish some kind of outreach program to go to people with disaster-related needs was urged. The idea was also pushed that local indigenous persons should be utilized as much as possible to prevent polarization against "outside specialists" and to insure continuity between the immediate remedy and long-term recovery when "outsiders" would no longer be present.

segment of the victim population. There is complete agreement by all participants that they were given an extensive briefing by an NIMH representative on the possible range on individual reactions to such an extreme stress situation such as the tornado, although there were selective perceptions about the specific content of the briefing and what was or was not emphasized.

develop about outsiders who inject themselves on the local scene. As other DRG studies have shown, outside organizations in disaster settings, unless they move with exceptional caution and tact, will become rather negatively viewed. This is a lesson which federal agencies dealing with state and community groups, and the national Red Cross interacting with its local chapters (Adams, 1970), learned a long time ago. Some of the mental health personnel present at the meeting were of course very sensitive to the possible polarization that might occur, but some did not apply it to the activities at the very meeting where the possibility of the problem was voiced.

Different participants remember different things about the outcome of this first meeting. Perhaps the most accurate statement that can be made is that no formal decisions were explicitly made, but a number of implicit agreements were understood as having been reached by many of those present. Thus, it seemed generally agreed that the 648 staff was to take the lead in the mental health response to the disaster or, in the words of the notes of the meeting by one participant, "will be in charge of coordinating mental health efforts." It also appeared to be implicitly understood that some kinds of outreach programs would have to be developed including the sending of mental health personnel to the shelters, visiting the families of dead victims, and perhaps launching a door-to-door seeking of persons that might need other than physical or material assistance. There also seemed to be an unspoken belief that someone was going to have to make an inventory of mental health resources in the area, consolidate or gather in some way information about mental health activity, and possibly insure that the mental health helpers themselves were also given the proper psychological support.

Perhaps the most unclear outcome of the meeting was who specifically was going to do what. Apart from the general feeling that the 648 staff should take the lead in the coordination effort, most participants remembered few other specific assignments of responsibilities or tasks. Some recall that the Guidance Center was to prepare a spot announcement to be broadcast by local radio stations. This was intended to alert the population as to the possible and expected psychological and emotional reactions to disasters, as well as to inform people of the availability of mental health services at the Guidance Center. But other people recall this being decided at a later meeting.

Nevertheless, this first meeting was very important for it provided the initial impetus for an organized effort to deliver mental health services in the aftermath of the Xenia tornado. The meeting brought about actions, even though in some cases perhaps not quite what was intended. Thus, in the deliberate and almost sarcastic words of a staff member of a Xenia area mental health organization, the suggestion was followed...

...about using indigenous community leaders. This was the process that came out as important at the first

The Second Line Centers, of which there were to be three, would provide in-depth counseling interviews for persons referred from the First Line Centers. The Second Line Centers would be staffed by clinical

experience. be staffed by seminary students and other persons with counseling ex- and maintenance of a simple system of records. These centers were to with counselors, referrals to Second Line Centers and other agencies, for scheduling of volunteers, emergency transportation, consultation First Line Center was to have a coordinator who would be responsible Second Line Center for more intensive psychological counseling. Each case of more severe emotional problems, to direct the victims to a counseling, support and information for disaster victims, and, in the disaster shelters and one-stop centers. These were to provide emergency (as the first stage was called), which were to be located at specific According to the plan there were to be five "First Line Centers,"

third. referrals to the second, and the second would make referrals to the centers linked to one another by stages. The first stage would make it involved the creation of three types of temporary mental health area representative. Referred to generally as the "Three Stage Plan," plan, although it is agreed that it is not attributable to any Xenia failure, in retrospect, no one cared to claim prime authorship of the the Xenia area emerged from this meeting. Possibly because of its later A rather detailed plan for the delivery of mental health services in tives from social service agencies in Greene and Montgomery counties. systems, Dayton psychiatrists, as well as a limited number of representa- organization, the Dayton and Greene County community mental health ing day. It involved representatives from the district mental health The Three Stage Plan. Still another key meeting was held the follow-

problems. be used by mental health personnel for locating victims with emotional Thus, within 24 hours, agreement was reached that the shelters could of authority within the Red Cross served to facilitate negotiations. members of the Greene County 648 Board had previously held a position who favored immediate response. But the fact that one of the staff resistance to complete cooperation with the mental health leadership become involved in its own operations. There was, therefore, some organization is traditionally very reluctant to let any other group mostly provided by the Red Cross for a variety of reasons and the needs of the community. Direct mental health services are not com- ership hoping to construct a joint program for meeting the immediate American Red Cross was contacted by several of the mental health lead- Still other meetings were held that day. A representative of the

meeting on Monday. We set up two emergency teams. We hired two women to coordinate these teams, essentially to go out and visit people. This utilized a lot of people wanting to volunteer, you know, the people from Dayton (sic).

psychologists and social workers from the Dayton mental health centers, and would be spatially isolated from the First Line Centers in order to provide the greater privacy necessary for more intensive counseling. Each Second Line Center was also to have a coordinator. Referral of patients to the Third Line Center, scheduling of the staff, and maintenance of a system of records were among the responsibilities of the coordinators of the Second Line Centers.

The final step in the plan called for a Third Line Center or psychiatric unit which was to be located at Greene Memorial Hospital. The Third Line Center would be staffed by a psychiatrist, nurse, social worker and/or psychologist, and a mental health technician. Presumably only serious cases would be referred from Second Line Centers to this unit, although patients in the hospital who had been "disturbed" would also be treated.

Other Plans. Over the next few days still other meetings were held as the 648 Board, through its staff struggled to assume the local leadership in planning and organizing the delivery of mental health services in response to the disaster. Plans were discussed to conduct a community-wide survey to assess the emotional needs in the area, although as it turned out and as we will discuss later, this project was fairly soon undertaken by a non-community mental health system group, the Xenia Area Interfaith Council. Plans were also considered to strengthen existing services by adding some additional personnel and providing limited training programs for agency staff, mental health "gatekeepers", school personnel, and disaster workers. Arrangements were also developed to bring in a consultant from a mental health organization from outside the state, as well as for other training programs to be conducted jointly with the Office of Education and Training of the Ohio Department of Mental Health.

Funding for these new and expanded services was not considered a problem. Almost immediately after the tornado the Ohio Department of Mental Health promised that "additional expenses incurred by the 648 Board as a direct result of the disaster would be funded on a 100 percent basis for a temporary period of time." The monies were to come from two sources. First of all, approximately \$20,000 of unspent state per capita money would be returned to the Greene County 648 Board. Secondly, the 648 Board was encouraged to submit a proposal for any additional funds that might be needed. The reaction on the part of several key mental health staff members in the Xenia area was that whether or not the local community mental health system needed to be changed drastically to deliver disaster-related mental health services, this almost blank check policy implied that the state was in favor of doing something of a major nature.

The picture that comes through at this point is fairly clear, especially when viewed from the perspective of the 648 staff, the major planning core of the local community mental health delivery system. Outsiders were seen, and probably accurately, as pushing hard for the initiation of new massive services. Most of what was originally suggested,

especially the Three Stage Plan, was believed created and advocated by non-local people not familiar with the Xenia situation. The financial support for the new and expanded services was thought to be provided by the state for the most part. Furthermore, as already indicated in Chapter II, the belief that there was a demand for mental health services right after the disaster was by far more strongly held by outside groups than by the 648 staff. Against this background, the 648 staff was supposed to take the lead in planning and coordinating the rather new organizational arrangements and activities contemplated.

The perception of being pressured comes out clearly in the interview remarks of one key official in the community mental health delivery system who said:

Everybody was descending on us. "What's the plan? What can we do for you? Set up some kind of plan!" Now I don't know. I guess with the kind of job experience that I've had, I didn't really feel like I was the worst planner in the world. But I didn't have a plan at that moment. All of these people hollering at you what can they do. I was completely overwhelmed by all of these people. If I was going to plan, I wouldn't have had all of these people around. I don't think that you can sit down and do basic planning with a roomful of people.

Complicating the situation further was the concurrent planning of certain local groups and organizations, who were not themselves a part of the 648 community mental health system, but who attempted to organize disaster-related mental health services. For example, during the first ten days after the tornado, administrators and physicians at Greene Memorial Hospital held a number of meetings to assess the anticipated need for mental health services at the hospital following the disaster. Initially these discussions were independent of planning elsewhere although eventually the provision of psychiatric services at the hospital was included as one component of the Three Stage Plan. Discussions were also held centering on how the staff might recognize those suffering more severe emotional problems who could be referred to the psychiatrists located in the hospital. At one point hospital personnel came up with their own plan that called for mobile units to be stationed at the hospital, housing psychiatrists and other mental health workers who could screen and provide individual and group therapy to disaster victims. Later we shall note that the whole Three Stage Plan, as well as the partly independently derived hospital plan, collapsed as a result of almost non-existent demand. But in this planning phase there were complaints about being left out of the planning. Thus, one Dayton mental health official noted that in the early days:

I got a call from the health department which was distressed at the lack of coordination and inclusion of the agencies in the mental health planning. I guess several agencies were distressed that they were not being included, particularly the Crisis Center, the hospital and the health department.

Additionally, as already indicated, the social service agencies had initiated their own planning efforts, many of which had some direct implications on how the community mental health delivery system was supposed to operate. Since a problem of coordination among the social service agencies was recognized early, an interagency meeting of a range of organizations in Greene County was held one week after the disaster. Interagency meetings had been attempted in the past but had failed because of lack of interest. The disaster provided the necessary impetus to their renewal. But the mental health aspects were only one part of the larger interests involved in the contemplated weekly interagency meeting, which were supposed to deal primarily with the delivery of social services associated with the disaster.

This overview then has depicted much of the rather complicated coordinated and uncoordinated planning in the immediate aftermath of the disaster. To a considerable extent, after about a week the community mental health delivery system started to develop plans, although much of impetus came from extra-systemic sources. But if these were the plans, how were they implemented?

Attempts at Implementation

The major effort that was made in the Xenia area to deliver community mental health services in the first two weeks or so was in the attempt to implement the Three Stage Plan. This effort to create an emergent organization failed. Other activities planned, such as the training of mental health personnel to cope with the supposedly special problems that were going to appear in the general population as a result of the tornado, were however, initiated.

Failure of the Three Stage Plan. This plan was very short-lived. Within seven days two of the First Line Centers folded because the disaster shelters in which they were housed closed, and the remaining three centers had been radically transformed: one into a kind of pastoral counseling center, another into a Second Line Center, and the third into the focal point for the needs assessment survey of the community.

It was reported that as many as 300 volunteers from various mental health centers, colleges and seminaries in neighboring areas offered their services to the mental health programs at the disaster shelters. However, a DRC survey indicates that the number of actual volunteers was less than a third of that number, perhaps 70 or 80 persons. The involvement was overwhelmingly from outside of the city of Xenia.

Unlike in some of the programs that were to be developed later, the majority of the volunteers for the First Line Centers were clinical psychologists, social workers, mental health technicians, and persons from other mental health-related occupations. Many of these volunteers came from one of the four mental health centers in Dayton. In some

cases their employers not only gave them time off with pay, but arranged transportation also. Although supplying a somewhat smaller percentage of volunteers during this early period, seminaries in the Dayton area were also a major source of volunteers, providing students who had strong interests in the area of pastoral counseling.

In most situations, the First Line Centers consisted of a table staffed by a varying number of persons (anywhere from zero to about 15 at any particular time) comprising teams of mental health workers with different combinations of mental health skills. Very few victims came to the counseling tables, so several of the mental health volunteers spent their time mingling among those present at the shelter. A good deal of the activity of the mental health volunteers was devoted to gathering names of persons around the shelters who, whether by their own admission or in the estimation of the volunteer, needed some sort of emotional help. The names of these persons were in the first few days passed on to the Guidance Center and, after that, given directly to the persons conducting the Interfaith needs-assessment survey.

For the most part, the mental health volunteers attempted to supply short-term supportive services such as running errands, guiding victims to the appropriate agencies, and generally attempting to make the situation less imposing. A father who had lost a son in the tornado needed a babysitter while he made funeral arrangements. His other son had received a head injury in the tornado and wanted a cowboy hat to cover the wound. Not only did a mental health volunteer arrange babysitting but she searched through the town until she found the cowboy hat as well. This was typical of much of the "counseling" that was done. Therefore, although it appeared that many of the mental health volunteers were kept rather busy, their activities did not conform to the expectations of those who had proposed the Three Stage Plan.

As one highly skilled professional noted of his experience:

We were at Shawnee initially. For a couple of days it was the one-stop center. They had tables set up for HUD, for Red Cross and a table for unemployment benefits, and so forth. And way over in the back there was a mental health table. In fact, that was the sign they had up on the wall -- mental health or counseling. So the intent was that people who felt they needed counseling and just wanted to talk would come over to the mental health table and request some services. Well, we soon discovered that nobody was coming...

As it turned out, there weren't a lot of cases to be found. Now I was talking about the individuals we encountered in the first couple of weeks who were really distressed, were needing medication in some cases and so forth. But hell, there were only six or ten of those people out of the literally thousands who were processed

through those places. So there were not a lot of traditional kinds of cases which was why the plan didn't work, why it just fizzled out and eventually died...

These psychiatric social workers quickly discovered that there wasn't such a strong call for that kind of expertise. Instead of needing a lot of counseling skills, they needed to have some ombudsman skills. They needed to be expeditors, to know where all these services were located so they could steer people there and get them through the red tape and all that... What was needed, I think, in retrospect, was just providing a listening ear, an ombudsman kind of service, an expeditor kind of thing.

As it turned out, some shelters not only had a shortage of victims seeking mental health services but a shortage of those seeking physical services as well. The mental health volunteers at these shelters complained that they sat around and did nothing, for even the activities that consumed the time of the mental health volunteers in the more active shelters were not open to them. This situation was apparent in two of the five shelters designated as First Line Centers, and both shelters were closed within three or four days of the institution of the Three Stage Plan.

As has been outlined, the original plan called for the referral of persons needing more extensive mental health treatment to the Second Line Centers. As it occurred, however, there were only a few referrals from the First Line Centers at all, and most of these were referrals directly to the Greene County Memorial Hospital. The onslaught of victims with severe psychological impairment and disorder that some had expected did not materialize, and the volunteers at the Second Line Centers often had little to do. The Guidance Center, for instance, although it did pursue other activities which we shall shortly discuss, quickly pulled out of this program, abandoning its function as one of the Second Line Centers.

As one participant noted:

After that three stage fiasco was implemented, it wasn't very effective. It was a waste of mankind. There were people sitting at the Second Stage Centers playing the piano and twiddling their thumbs. There was nothing to do with the really well-trained people.

I know, for example, when I was there that there was no one from the Guidance Center giving a call saying, "Hey, we're glad you're over there. We've got two dozen people here that maybe you could come over and see, or we'll send them over or whatever." I'm saying the void, the absolute absence of any communication, was incredible... There must have been some knowledge, for example, that the Dayton Mental Health Center was sending over three teams with three people each day for five days. I couldn't fathom that not being known... I was concerned

-- many of us were concerned. What were we doing there? Here we were sitting in this place... No one showed up. Here it was Monday, then Friday and only a few people had a couple of contacts with victims.

As stated above, the few referrals from the First Line Centers were mostly made directly to the hospital. Yet, of the estimated few dozen persons treated by the Third Line Center, the majority were not referrals. Instead, they had come directly to the hospital, totally bypassing the first two stages of the Three Stage Plan.

The Third Line Center was in the board room in the basement of the hospital. Its staff consisted of a psychiatrist, nurse, social worker and/or psychologist, and a mental health technician -- the traditional mental health treatment team as specified by the state. Patients who came into the hospital for physical treatment who, in the opinion of nurses, physicians or others working in the hospital, had exhibited symptoms requiring mental health treatment were directed downstairs to the board room which housed the center.

However, several persons who were treated by the staff at the center merely "wandered in," contributing even more to what was one of the major impediments to adequate psychiatric treatment -- incomplete data base or case history of the patient. In most cases, patients treated at the Third Line Center were seen by teams which had little or no knowledge about how the patient got there, much of their background, and to what extent, if any, the conditions of the patient were related to the tornado or other factors. It was reported that about four such patients were referred from the hospital or other sources to the Dayton Community Mental Health Center, a state mental hospital; and, according to accounts that DRC could not confirm, some of these patients were temporarily institutionalized. However, there is no question that some mental health personnel in the Xenia area believed that such institutionalization had occurred, and they were very sharply critical of the procedures involved, believing them based on incomplete information for proper diagnosis. Even though some of these few cases allegedly were former state hospital patients, certain mental health professionals thought that there were some highly questionable legal and ethical implications involved in what had been done.

In summary, therefore, the Three Stage Plan failed to materialize as it had been proposed. The activities of the mental health volunteers at the shelters that remained open consisted mainly of running errands, helping people negotiate their dealings with non-mental health agencies, providing some sort of vague support for the disaster victims, and only tangentially in providing treatment through more traditional therapeutic and clinical strategies. The Second Line Centers were almost totally bypassed. The referrals made to the hospital were far outnumbered by the patients needing mental health care who came directly to the hospital. In short, by widespread and common agreement the Three Stage Plan was judged a totally inappropriate arrangement for the delivery of mental health services in the situation in which it was used. The emergent

organization which carried out the Three Stage Plan by the development of a new organizational arrangement for delivering both old and new services simply did not work. Few services were delivered and the participant caregivers, especially the volunteers, were strongly disillusioned if not actually bitter about the way they had been used.

Other Implementations of Plans. Special training sessions for mental health personnel were instituted as early as the second week after the tornado. In one case, a consultant brought in five times by the 648 staff talked to a variety of persons ranging from traditional mental health workers to social service personnel to the clergy, persons from the medical area, and the schools. The primary goal of these (as well as other) training sessions was to sensitize the community caregivers and "mental health gatekeepers" (e.g., police officers, school teachers, etc.) to the supposed psychological consequences of disasters. By facilitating their recognition of the assumed consequences, it was thought the problems could be more easily handled.

The sessions received a rather mixed reception. Some participants were very skeptical about what they were told, noting there was great incongruity between their own personal experiences in other disaster situations and what the consultant projected. They questioned whether observations derived by the consultant from clinical observations in acute personal situational crises could be projected or extrapolated to large-scale community disasters. The anecdotal impressions said to have been cited by the consultant on the basis of one sole experience in a major community disaster did not seem a very sophisticated approach to less clinically and more scientifically oriented listeners. Some members of the community mental health delivery system and peripheral groups in the Xenia area exposed to the consultant thus greatly discounted what they were told, and felt that as the situation later turned out, that they had been quite correct in their earlier skepticism.

On the other hand, other persons tended to accept as "gospel" the consultant's predictions as to what the community was likely to be faced with in the aftermath of the tornado. One social worker who accepted the consultant's opinions said that:

Something that was pointed out by one expert was that we would have an awful lot of health problems after the disaster, like pneumonia and more heart attacks. Also the accident rates and so forth would go up at a very dramatic rate following the tornado although it was said that the accidents can't necessarily be tied to the disaster itself. But these problems are a sign of the stress among the people following this type of thing.

There is little question that some persons involved with mental health problems took the predictions quite seriously. A few were sensitized enough that they later consciously attempted to a degree to implement what they had learned about looking for signs for possible difficulties.

Besides bringing in this consultant, the 648 staff was also able to initiate other planned training programs. After some planning meetings,

a series of three half-day sessions were sponsored jointly by the 648 staff and the Office of Education and Training in the Ohio Department of Mental Health and Retardation. The purpose of this conference entitled "The Future Mental Health of Xenia and Greene County" was to provide community caregivers with general information regarding the assumed psychological consequences of large-scale crises or stress situations, and to allow the participants to discuss and apply this more theoretical information to the practical problems of service delivery in a disaster context. Attending these sessions were representatives of various local caregiving groups, such as social service organizations, the public health department, ministers, mental health agencies, the clergy, Interfaith Council and counselors from nearby colleges and universities.

Funding for this program was provided by the Ohio Department of Mental Health and Retardation, thereby making it possible to bring in five or six mental health professionals from elsewhere in the state to conduct the training. While some of these persons were practitioners, ranging from social workers to psychiatrists, others worked largely in academic settings. A few had previous experience with the delivery of mental health services in another disaster, i.e., the dam disaster in Buffalo Creek, West Virginia. However, most were drawn from other counties in the state which were struck by tornadoes around the same time that the disaster occurred in Xenia. Hence, to the extent that the prior disaster experience of those conducting the sessions was both recent and limited, those in attendance were still unable to gain a very clear picture of the possible long-run mental health problems which they might expect to have to handle in their own community in the wake of the disaster.

There was lack of clarity on other more immediate matters also. For example, there was considerable confusion regarding the Guidance Center's role in providing disaster services. During the series of meetings already mentioned, the idea of outreach -- which appears to have first been conceived by the Center -- received further support from representatives from NIMH who recommended a similar strategy. Subsequently, since special funding for new programs was being discussed, the director was authorized to hire a person to coordinate volunteer outreach services through the agency. The idea behind these services was expressed by one of the Guidance Center staff members in the following way:

It first occurred to me that there needed to be a tracking system of tornado victims and that every victim should be contacted and their needs assessed. At that time, I had no idea that similar projects had occurred in other disasters, like Wilkes-Barre. It was just a common sense notion of doing that, and the idea that I had was maybe we could get lists from the Red Cross and from HUD about which houses were destroyed, and then start a tracking system just to find them, every single one, and assess their views and see how they were getting along with getting services.

But in the meantime, the Three Stage Plan was emerging, designating a different function for the Guidance Center, that of being a Second Line Center for intensive counseling. In other words, by this time, decisions regarding service priorities and program development for the agency were now being made at higher levels, that is, by state, district, and 648 officials. Moreover, these were often being made hastily and with little agency input. The following remarks by a Guidance Center staff member reflect the agency's reaction to what was occurring during the first week after the tornado:

I felt that this was an issue that was much larger than this whole agency, and it was appropriate for other people to get involved. I also knew that this agency didn't have any money with which to launch mental health programs, and I felt that it was appropriate that it be a community-wide project. So I was favorable to the idea of a lot of people coordinating efforts. I was later disappointed because I felt we were not really consulted, nor were any of the other mental health professionals or people in the agencies consulted in the plan that eventually won out, the Three Stage Plan which was just sprung on us and hoisted at us much against our objection.

An overall analysis of the Guidance Center's short-run response to the tornado indicates that, for the most part, the organization did not alter its tasks or services significantly during the first few weeks after the disaster. While the Guidance Center considered many actions that would have turned it into either a Type II or Type III group (as discussed earlier), in actual fact it remained generally a Type I organization, an established agency with traditional tasks. If anything, the Center had to suspend some of its usual delivery for a period of time as a result of the destruction of its facilities, although it did attempt to contact all its current clients as well as former ones of recent times to indicate that the services of the organization were still available. However, this did not involve the offering of new services and there is little evidence that the announcement of availability generated much seeking of services by those contacted.

There was discussion and even some tentative efforts to change the behavior of the organization in the early stages of Time Two, but they came to little. The informal in-shelter program, as noted earlier, had found very few recipients. There was consideration given to developing more of an outreach human services strategy. But this was not to be done by the regular staff, but through the hiring of a separate coordinator (which did lead to and facilitate the appearance of an emergent group, the Disaster Follow-Up Group). At one point, the agency considered obtaining trailers as traveling offices which could go into badly impacted neighborhoods to make individual and group therapy available to victims. But this and other types of outreach programs were never consistently implemented.

The Guidance Center did increase temporarily the size of its staff in an effort to cope with an expected increase in clients as a result

of the tornado. Some volunteers were used to deliver walk-in mental health services as well as services to new clients referred to the organization by other groups. This freed the regular staff to continue to provide services to their usual clients. However, in actuality, there was relatively little demand for strictly mental health services, even from these new "clients" in the immediate emergency period. The Guidance Center after the disaster reflected far more intentions and possibilities rather than actual behavioral changes insofar as delivery of mental health services was concerned.

None of the rest of the contract agencies did much delivery of anything of community mental health relevance in the emergency period. However, some of their personnel did or attempted to provide certain relevant services. For example, staff members from Yellow Springs Encounter did volunteer some of their time to other groups which were actively involved in the disaster response. One of the staff, for instance, during a month's period counseled perhaps 50 patients at Greene County Memorial Hospital, most of whom were direct tornado victims. Another staff person did some counseling during the brief existence of the First Line Centers. In addition, at the request of the Guidance Center some of the members of Encounter helped staff the Center through the weekend immediately following the tornado. However, reports are that these professionals saw only one client during that entire time.

The Role of the 648 Staff

In discussing some of the highlights of mental health-related events in the first few days after the tornado, the activities of the 648 staff have been noted. We want now to more specifically indicate how this group responded immediately after the tornado hit and in the next few days thereafter. As was stated earlier, it was fully five days after the tornado struck before this key agency attempted to assume any leadership whatsoever in gearing up the mental health system to provide services in relation to the disaster. Yet this inactivity on the part of the agency represented not so much a shirking of their responsibilities as it did a failure to see the mental health sector as having any urgent responsibility during the immediate post-impact period. This attitude is well expressed in the remarks of one 648 staff member:

There was nothing really that mental health could do for people on that Monday after the tornado... I had the conviction that nothing at that moment was going to happen to people's mental health, because they had too many other things to keep them occupied. Gee whiz, they didn't have time to have an emotional breakdown. It's later on when this might happen.

Thus, expecting the mental health needs of the victim population to be of a relatively low priority immediately after the impact, the 648 staff practically ceased their operations during the first four days following the tornado. However, it soon became clear that other influential local and extra-local groups did not share this same definition of the situation. Subsequently, the staff gradually attempted to carve out some type of organized response to the disaster on the part of the mental health delivery system.

During the week following the tornado, the staff not only called the series of large-scale meetings of key agencies discussed earlier, but various other activities were undertaken by them as well. First of all, the community relations coordinator initiated the process of obtaining lists of victims from Red Cross and HUD in order that contact might eventually be established with these persons by mental health organizations. Secondly, once the Three Stage Plan was implemented, the program coordinator was assigned the responsibility of coordinating the mental health volunteers working in the various shelters, a task which proved extremely difficult to carry out. Thirdly, the aftercare coordinator, the one 648 staff member whose position entailed the delivery of direct services, initiated contact with aftercare clients in order to assist them in obtaining disaster assistance. And, finally, the 648 executive director met with a number of local and extra-local groups, such as the clergy, social service organizations, the medical staff of the hospital, and state and federal mental health officials in an effort to assess the mental health needs, and to organize programs to meet these needs.

Hampered by the lack of office facilities for a week to ten days after the impact, the staff, however, was unable to communicate with one another effectively in carrying out these tasks. Subsequently, not only did the 648 staff experience major difficulties in organizing and coordinating the overall response of the mental health delivery system to the disaster, but there was very little coordination of their own efforts as well. Therefore major decisions about program development, such as the Three Stage Plan, were often made in an ad hoc fashion without consulting other 648 staff members, relevant agencies, or even the 648 Board.

By the end of the first full week after the tornado, new problems confronted the staff. The Three Stage Plan had failed. New programs had to be designed to meet the needs of disaster victims. Subsequently, a staff had to be recruited to develop these programs, and special training was seen as necessary for these new staff and volunteers, along with the existing agency personnel. Funding for the disaster-related mental health services had been informally promised by the state Division of Mental Health, but this led to additional demands being placed on the 648 staff. In the first place, the state requested that the 648 Board submit a formal proposal containing a rationale and description of the disaster programs for which the funding was being sought. This was by no means a minor task to perform at that point in time. In the second place, the possibility of obtaining additional outside funds led all kinds of groups, contract agencies and otherwise, to approach the 648 staff for funding of various disaster projects. However, even when the requests seem justified, the staff was reluctant to act on these demands without the approval of the board. As one staff member remarked:

I mean we had every agency, and agencies I had never even heard of, hitting us for money. And we didn't have any emergency money yet.

And there was still another problem. All of the various outside officials and information seekers who were still converging on the agency even two weeks after the impact had to be hosted by the 648 staff.

In spite of all of this, by the end of the third week after the tornado, two new staff members had been hired to coordinate the out-reach programs, other contact agencies had been authorized to hire temporary employees on a month-to-month basis, and plans had been made to bring in outside consultants to aid in the training of local mental health professionals and volunteers. At this point, as far as the 648 staff was concerned, the response of the mental health system to the disaster had been formulated and was complete. Yet, for the most part, final decisions about many of these matters had been made in a rather ad hoc fashion, and in the absence of consultation with other components of the mental health delivery system. In fact, it was not until about a month after the tornado that the entire 648 Board was to meet and, as will be discussed later, attempt to regain some control over decision making and the setting of priorities for the mental health delivery system.

It is evident that the leadership and coordination provided by the 648 staff in the first few weeks after the disaster was weak, a fact which members of the staff recognized. Nevertheless, by the third week after the tornado, several staff members had already returned to their pre-disaster ongoing task of formulating and developing the overall community mental health plan for the remainder of the fiscal year. While this plan was originally due in May, the state Division of Mental Health had provided the staff with an extra month to prepare it, obtain board approval, and submit it to the state, since all of their prior written work on the plan had been lost when the tornado struck. Thus, having been more or less forced into a leadership role in organizing a mental health response immediately after the tornado, the agency rather quickly abdicated all but the most basic administrative functions insofar as the disaster programs were concerned. For the most part, program directors, including the heads of the two new emergent groups, were left to design and implement their specific tasks with little direction from the 648 staff.

As we shall see, whether or not the 648 staff's assessment about the relative priority which should be placed on disaster-related mental health programs turned out to be correct is basically irrelevant. What does matter is that the inactivity of this agency in the first four days, justified or not, was to have profound implications for its subsequent ability to coordinate and administer the overall response of the mental health delivery system to the disaster. The continued reluctance to get involved and the relatively quick abandonment of all but nominal involvement in the provision of services were simply a continuation of the initial orientation.

The Role of the 648 Board

In principle, the 648 staff works under the general guidance of the 648 Board. However, the tornado struck on a Wednesday, one day prior to the regularly scheduled monthly meeting of the 648 Board. However, since the 648 offices suffered major physical damage, the board meeting did not occur on that day. In fact, during the first three days after the tornado hit, there was virtually no communication between the 648 staff and the board with the exception of some informal conversations between a few individuals regarding their personal tornado losses. Then on the fourth day after the disaster, one typically active member of the 648 Board, who had been in contact with outside mental health groups from Dayton, got in touch with the 648 executive director. At that point, the board member urged the staff to organize some action on the part of mental health agencies in response to the disaster and to call a meeting of relevant organizations on Monday to initiate this process.

In the next three weeks there were, as we described earlier, a considerable number of demands placed on the 648 staff from a variety of local and extra-local organizations. Subsequently, many decisions had to be made rapidly. Often these decisions were not only crucial insofar as the immediate disaster response of the mental health system was concerned, but they entailed making commitments which could have a significant impact on the future priorities of the entire mental health delivery system. For example, new and different programs were being considered, and questions were being raised about the need for special funding and how it should be allocated. Yet throughout this initial period, the board as a formal body played almost no role in decision making with respect to the disaster response. There were one or two members of the board who did maintain regular ongoing contact with the staff throughout the emergency period. However, the roles they performed consisted primarily of assisting the staff in locating temporary office facilities and providing some source of informal board input into decision making. Thus, with the exception of these few board members, the 648 Board supplied little by way of formal leadership, information, or other resources in the first three weeks after the tornado. As evidence of this, one member of the board later stated the following:

There's been a great deal of concern about the fact that there wasn't more action more quickly on the part of the 648 Board in attempting to bring about some kind of more adequate response. People laughingly say, "Where was mental health? Where was the 648 Board in all of this?" It was not until the next week, on Monday, that they got started. And there was nothing visibly concrete or any semblance of order even at that point to what they were doing.

It was not finally until April 25 that the program committee of the 648 Board held its first meeting after the tornado, and about two weeks after that the full board scheduled its first monthly meeting. For all practical purposes, this May meeting represented a turning point with respect to the role played by the 648 staff and board in responding to the disaster. In short, the emergency period during which the 648 staff

had made decisions regarding disaster programs and funding autonomously from the board came to an end. That is, to some extent there were signs that an effort was being made to return to normal Time One patterns of decision making and authority, as well as to the pre-impact task of developing the ongoing community mental health plan.

Organizations peripheral to the community mental health delivery system, such as social service, emergency and welfare agencies, of course delivered their own services. About a week after the tornado, the Red Cross, for example, was providing case work assistance for about 520 families. However, as indicated earlier, except tangentially, these organizations provided no direct mental health services and certainly not in any systematic fashion. Thus, in the first few weeks after the tornado, the major effort to deliver mental health services consisted of the aborted Three Stage Plan; other mental health services that were provided were, in general, by individuals rather than organizations. It is not surprising, therefore, that towards the end of April two new groups started to emerge to deliver mental health services, as we shall discuss in the next section of the chapter.

The Longer-Run Response

It is not our purpose to detail the behavior of all the varied groups involved in mental health activities from the second or third week after impact until ten months later when the DRC systematic field work stopped, or until the anniversary of the tornado a year later. However, we do want to highlight the major involvements and the prime mental health services delivered. To do this, we will first discuss the emergent groups in the situation that developed to meet much of the demand in the mental health sector. We will then discuss the pre-tornado organizations in the community mental health system and indicate whether, past the emergency period, they retained their Time One characteristics or whether they changed in some ways as a result of the tornado. While some references will be made to other changes that may have ensued in these groups during Time Two, almost all of our attention is focused on those modifications or alterations that were directly disaster-connected. After discussing the 648 Board and staff in this part of Time Two also, we briefly look at those groups peripheral to the community mental health delivery system and note what they did.

The Emergent Groups

A number of new groups emerged in the wake of the disaster. We have already discussed the abortive nature of the complicated social organization involved in the implementation of the Three Stage Plan. But far more important are two other emergent groups which got heavily involved in the delivery of mental health services. These were the Xenia Area Interfaith Council and the Disaster Follow-Up Group.

1. The Xenia Area Interfaith Council. This group was formed about two weeks after the tornado. It arose out of the informal interaction among the Xenia clergy and contact with the director of another "inter-faith" group which had come into being after the massive floods in Wilkes-Barre, Pennsylvania in 1972. The Wilkes-Barre organization (also studied by DRC, see Ross and Smith, 1974) clearly provided the role model for the Xenia group. Nevertheless, despite the model Inter-faith (as we shall hereafter designate the organization) was a new group with an emergent normative framework and an emergent social structure (These concepts, which will be discussed in more detail in Chapter V, refer respectively to the rules, values and beliefs that indicate courses of action, and the division of labor, lines of authority, and channels of contact that also guide behavior.)

The emergence of Interfaith contrasts sharply with the coming into being of the Three Stage Plan. Apart from the temporary assistance of the Wilkes-Barre Interfaith director, the framework and structure of the Xenia Interfaith emerged from within rather than being imposed from outside the community. There was even initial agreement that the Dayton clergy were to be excluded from the organization. The whole organization of Interfaith, including its decision making and lines of authority, were contained entirely within the Xenia area.

Interfaith was interested in providing a whole series of services to the stricken area. It borrowed from the Wilkes-Barre experience the idea that it would be necessary to quickly assess the range of community needs after the tornado. What were the demands in the situation? To find out, again adapting from the Wilkes-Barre experience, it circulated throughout the Xenia area a small (4" by 6") card. Printed on each card were a number of services that might be needed, with emphasis primarily on physical needs. The tornado victim indicated by a check mark those services desired or required. Besides the list of services oriented to physical needs, there was one item on the survey which had special relevance to mental health. This was the simple question: "Do you want to talk to someone?"

The survey was conducted primarily by college students, seminarians, housewives and a few mental health professionals. The volunteers were encouraged to visit at some length with victims allowing them not only "to express their needs," but also "to articulate their experience." Apart from telling the survey-takers to do this, and giving them information regarding the existing social service agencies, little if any specific training was given to the volunteers conducting the survey. Nevertheless, within two weeks, approximately 1,200 need cards had been filled out and returned to the emergent Interfaith group.

When Interfaith was initially established, the primary services it sought to provide to disaster victims were those involving direct material aid, i.e., money, clothing, housing, food, and the like, rather than mental health services per se. However, relatively soon after the organization emerged, salary for one Interfaith staff member was supplied by the 648 Board. Yet this position was not actually funded for the provision

of direct mental health services to disaster victims by Interfaith. Rather it was to ensure that the services delivered by Interfaith would be coordinated with those of the larger mental health delivery system. Thus, the staff member given this responsibility was designated as the Interfaith-648 liaison. At first, the liaison was charged with coordinating the activities of the various mental health volunteers working in the centers under the Three Stage Plan. When this effort failed, the liaison turned to coordinating those volunteers who were conducting the needs-assessment survey, since this project was to serve as a case-finding effort for mental health organizations, along with the various other social service and disaster relief organizations.

In the meantime, besides conducting the survey, Interfaith began working out of borrowed office facilities, supplying direct material and financial assistance to tornado victims. Soon after the disaster, a computerized skills bank of volunteer labor and other available services was compiled with the help of officials at Wright Patterson Air Force Base. Yet, in spite of the various types of assistance which seemed to exist for disaster victims, the results of the needs-assessment survey suggested that many people were either unaware of these services, or as yet had not sought them out. It was therefore decided that an outreach effort was needed in order to deliver the services to victims.

Thus, Interfaith initially anticipated primarily using the cards' survey results to initiate an outreach program which they called "advocacy." The advocacy program consisted of follow-up contacts with the families who had filled out need cards, referrals to the appropriate disaster or other social service agency, and, where the victim family was ineligible for other types of assistance, attempts to supply the necessary funds directly from Interfaith. In time, the total number of volunteers over the first six months of the advocacy program numbered approximately 175 persons of whom some 90 percent were housewives and individuals in occupations other than mental health.

The Interfaith survey produced an indicated need for some sort of possible mental health follow-up in about ten percent of the cases. However, instead of following through on this, Interfaith decided to transfer the relevant cards to another emergent group, the Disaster Follow-Up group. This came about because the Guidance Center had, unknown to both the 648 staff and Interfaith, hired an individual to assess the community's mental health needs after the tornado. The specifications of the job were vague but it was thought that perhaps some kind of door-to-door survey using volunteers could be mounted. At any rate, at another of the innumerable meetings that went on, but at one in which both the 648 staff and the Guidance Center were represented, it was discovered that unwittingly two persons seemed to have been hired to do roughly the same job. An informal division of labor emerged from this discovery. The Interfaith and 648 liaison staff member came to coordinate what was called Phase One of the outreach program, essentially the needs-assessment survey. The other person

became the coordinator of Phase Two, that is, in charge of the effort to contact those victims that the survey had indicated might require some sort of emotional support. This latter program was called the Disaster Follow-Up Group, which we shall discuss shortly.

As for Interfaith, during the one year period following the tornado, it served over 3,000 persons with about 800 families receiving personal visits by the advocates. Furthermore, in addition to referrals, food, clothing, furniture, and other services supplied, cash grants totalling over \$500,000 were made directly to disaster victims.

Throughout the first six months of its existence, Interfaith gradually established itself as a highly visible and relatively effective disaster relief agency. During that time, the organization was able to muster a total budget of about \$750,000 through contributions from various church denominations, corporations, other groups and individuals. Furthermore, at the end of its first six months of operation, Interfaith experienced a continued demand for its services. Subsequently, the decision was made for the agency to continue to function as a more permanent and ongoing organization dedicated to delivering long-term recovery assistance to disaster victims.

Still aiming for a closeness of fit between the services it was offering and those needs actually expressed by disaster victims, Interfaith therefore decided to conduct a second needs-assessment survey in conjunction with the Disaster Research Center at The Ohio State University. This systematic survey, which is described in Chapter II, was conducted by Interfaith volunteers among a random sample of the population about six months after the disaster. However, as it turned out, the results of this survey did not lead to a radical alteration in the basic service strategy employed from the organization's very inception. This approach is essentially summarized in the following excerpts from a document prepared by Interfaith after the survey was completed.

The tornado victims did not differentiate physical problems from emotional problems. Basic needs of food, clothing, and shelter took precedence over any feelings of grief, fear, panic, or other anxieties. A more flexible and comprehensive community mental health model was needed -- a model that would allow the mental health recovery worker to 1) locate the disaster victim and 2) support the victim in meeting all his needs, including any stemming from mental stress.

In other words, the basic idea was that if victims were given the necessary material aid, this would tend to alleviate or prevent further psychological or emotional stress.

To accomplish this basic objective, the advocacy program was retained even beyond the first six-month period after the disaster. But in addition to the home-visitation aspect of this program, a new and more aggressive method was to be used by the advocates in obtaining services for victims. This strategy was called "institutional advocacy."

The goal and method of institutional advocacy was described by Interfaith in the following way:

The Advocacy program will be expanded to take seriously its title of supporting the tornado victim and pleading and espousing his cause to the appropriate agency. The program will do in-depth research into the guidelines and eligibility rules of every private and governmental program for the purposes of interpretation and referral for the tornado victims. The program will monitor, confront and persuade any program, institution or government system that dominates the way of life of the Xenia citizenry. The advocates will take the hassles, frustrations and anxieties of the tornado victims upon themselves to either resolve the problem or confront the system. Interfaith has restructured its Community Services Department to be that department that enters into dialogue with other agencies and social groups to support and advocate community programs designed to meet community needs.

During its second six months of operation, Interfaith increasingly employed the method of institutional advocacy. Various state and federal disaster and social service agencies were contacted, and their eligibility requirements and other policies were researched and sometimes challenged by Interfaith. For example, victims whose applications for assistance had been turned down by the Ohio Disaster Aid Grant Program were encouraged to make appeals on these rejections. In fact, Interfaith was instrumental in getting 21 such appeals granted, with these people receiving a total of \$45,000 of additional assistance as a result of the appeals. In short, Interfaith began to place a high priority on altering the social setting in which the "troubled" victim was involved. And in carrying out this objective, the organization often operated with the fervor of a social movement engaged in changing certain aspects of the existing social order (Turner and Killian, 1972: 259).

In the meantime, Interfaith also continued to provide generic helping services including, but not limited to, mental health-related services. Gradually, however, less emphasis was placed on providing direct material aid to victims, since the procurement of funding for this became increasingly problematic. Yet concomitantly, Interfaith sought reimbursement from various established organizations, such as the state welfare and public health departments for services which they had themselves rendered, but for which victims were actually eligible to receive from these other organizations. In spite of the fact that funding from the 648 Board for the delivery of specifically mental health-related services was terminated six months after the tornado, Interfaith continued to link their activities with those of the larger mental health delivery system. Cross referrals were made between Interfaith and various mental health agencies, although there were consistently fewer instances where clients expressed a need for more intensive mental health treatment. Nevertheless, through its ability to offer a broad

range of services, the organization had a flexibility which other existing social welfare and mental health organizations did not have. In short, Interfaith was the one organization where an individual could go to obtain comprehensive disaster relief services. In contrast, most of the other social welfare, mental health, and disaster relief services were scattered, poorly coordinated, and differentially available to various segments of the population.

Although Interfaith in actuality never radically altered its basic service strategy, the organization increasingly came to define what it was delivering as preventive mental health intervention, rather than basic social welfare services. Attempting to accomplish this objective, the organization's efforts were applied not only to individuals, but to social institutions with the hope of reducing the kinds of behavior that usually come to the attention of mental health professionals. By April 1975, the 648 Board had received additional funds for another six months to support another six months of disaster-related programs. Recognizing the success and effectiveness of Interfaith in providing services which heretofore had been unavailable through the regular mental health delivery system, the 648 Board contracted with Interfaith for outreach and advocacy services and to sponsor a pastoral training program in conjunction with the 648 staff. In other words, one year after the disaster, efforts were being made to directly link, if not partially incorporate, Interfaith into the larger local mental health delivery system. However, even though Interfaith did become a formal contract agency with the 648 Board for the provision of certain specific services, the organization still retained a high degree of flexibility and autonomy in the middle of 1975.

It should be noted that the activities of Interfaith and the direction of change of its behavior were not always positively evaluated by all other organizations in the Xenia area. As a member of one local agency said:

There was one time when I felt that there was a little animosity from the mental health people toward Interfaith. Some felt that they thought that they were the children of God, and they could better answer the needs with God's help than we could. And I felt that they wanted to do everything, that they didn't really want to refer to us, and they wanted to take over. Really the efforts were a duplication of services as far as mental health is concerned. So there was some conflict between them and the mental health agencies.

2. The Disaster Follow-Up Group. This too was a Type IV organization, an emergent group with new tasks. When it actually began operations at the end of April, the organization was thought of as engaging in a "friendly neighbor" preventive mental health outreach program. A primary goal was to contact people early, help them find and use the existing social services available in the community, and refer them to other mental health agencies when needed. By so doing it was hoped that more serious mental health problems which might develop later could be prevented.

However, a philosophical goal of the Follow-Up Group as expressed by one of its staff members was "to foster a sense of community by citizens helping and cooperating with other citizens." Toward this end, therefore, two additional components of the program were established: meetings with small groupings of victims within a neighborhood whenever possible, and organizing neighborhood social affairs by working with and through "natural" leaders within a neighborhood. Thus, one of the major differences between the Disaster Follow-Up Group and the Interfaith Advocacy Program was in the type of assistance for victims which was promoted by the two groups. On the one hand, the Interfaith Advocacy Program concentrated on actually changing or reforming certain stressful aspects of the victim's social environment in an effort to make the victim's situation more tolerable. It was hoped that this would lead to a reduction of the types of problems that usually come to the attention of mental health workers. On the other hand, the Disaster Follow-Up Group was organized as a vehicle for changing people. That is, its activities were geared to supplying the participants with a new frame of reference within which their existing misfortunes would become more tolerable. By providing an avenue through which victims could interact with one another to share their common feelings and experiences, it was hoped that social solidarity among the various participants could be increased and that this would serve a therapeutic function for victims. Thus, unlike Interfaith which was dedicated to delivering concrete benefits, the Disaster Follow-Up Group was overwhelmingly geared to supplying victims with symbolic gratifications.

The volunteers of the Disaster Follow-Up Group consisted mainly (approximately 75 percent) of housewives and persons in occupations other than mental health-related. Although a total of 52 persons volunteered at one time or another for the program, the total active membership at any given time seldom exceeded 20 persons. Visits by the Follow-Up volunteers were often made in pairs and frequently lasted for two or more hours. Having little experience in these activities, the volunteers themselves would frequently express surprise at the warm reception they received.

At the beginning of the program a number of training sessions were held to which the volunteers were encouraged but not required to attend. Two or three of these sessions, run by social workers and psychologists from other Xenia mental health agencies, were thought to be adequate since the Follow-Up volunteers were not to take the role of mental health professionals but rather "friendly neighbors." The training sessions were followed by almost weekly "debriefing sessions" in which the volunteers were encouraged to express their own feelings. These debriefing sessions were based on the idea that not only disaster victims but also care-givers would require emotional support. The debriefing sessions, along with a number of special workshops that were offered, were also seen as providing a continuing source of training for the volunteers.

The role of "friendly neighbor" was not always seen as a legitimate one by all other parties interested in the delivery of mental health

services after the Xenia tornado. Criticisms came from both within the community mental health delivery system, such as the 648 Board, and from outside of it, such as the Montgomery County Mental Health Association and the State Department of Mental Health. Opinions were publicly and privately voiced that mental health services delivered by poorly trained personnel were not only useless, but dangerous. These criticisms contributed substantially to the uncertain, turbulent social environment in which the Follow-Up Group had to operate. Since it also had some internal organizational weaknesses, this emergent group suffered continuous and substantial stress.

From its inception the Follow-Up Group experienced perpetual uncertainty regarding the program's continuation. Its persistence was contingent on the approval of and funding from the 648 Board, both of which were granted on a month-to-month basis at first. Subsequently, the organization found it extremely difficult to carve out its objectives, as well as to recruit and retain volunteers for the program. In addition, the Follow-Up Group was frequently used as an instrument in the long-standing conflict between the 648 Board and the Guidance Center. In the first place, the program director had been hired as a temporary staff member of the Guidance Center. However, the 648 staff, wanting to retain close supervision over the new disaster programs, soon demanded that the Follow-Up Group be placed under its control. Then about two months later, the 648 Board directed that the Follow-Up Group be transferred back to the Guidance Center for its supervision so as not to have the 648 staff engaged in the delivery of direct mental health services. This final move generated considerable conflict between the Guidance Center and the 648 staff; and, in spite of the fact that the idea of a volunteer outreach program had been first conceived by the Guidance Center, the agency was nevertheless reluctant to accept responsibility for it at that point in time. In effect, all of this led to relatively little supervision and direction being supplied to the program throughout its existence. Furthermore, the group felt little support from several major components in the larger mental health delivery system, a fact which led to feelings of marginality and uncertainty about the program's objectives on the part of the volunteers.

Thus, through almost the entire seven months of its duration, the Follow-Up Group led a rather marginal existence. However, considering its small size (two paid staff members and usually about 20 volunteers), its performance was not that marginal. It provided more than 1,000 hours of service to approximately 380 victim families. From a comparative point of view, the Follow-Up Group delivered both absolutely and relatively more mental health services than some other more established and better organized agencies with greater financial and social support and clearer and more monopolistic goals than it had. It was not always recognized that perhaps the Follow-Up Group survived as long as it did, despite all its difficulties, because it provided something for which there was a demand that other organizations did not or could not meet. Instead, it was sometimes dismissed with remarks such as: "I really think their job was complete by August. I think you just can't run around and visit people all the time. You've got to recognize a new set of problems."

In actual fact, both emergent groups, Interfaith and Follow-Up, were somewhat ambivalently viewed by the more established agencies and organizations. Months after the tornado one 648 Board member observed (and in this reflected the views of many other persons in the local community mental health delivery system):

I mean as far as what they had hoped to accomplish and the whole problem in all of this is that it is impossible to evaluate what they did because no one had really any solid objective. Everyone was going to go out and do the job. But what job were they going to do? Well, nobody really knew what anybody was going to do, but they were going to do the job.

The Established Organizations

As already indicated, a number of the established agencies in the local community mental health delivery system did very little -- if anything at all -- right after the tornado. In time, they all resumed operations in some form or other. But there are three things to note about the renewal of everyday operations. There were substantial differences in the times when different agencies got back into some kind of work routine. Not all organizations returned to their Time One patterns -- if anything, certain prevailing trends were accelerated by the tornado event. And only in a few instances of resumed operations was there the delivery of disaster-related services; in most cases there was simply the resumption of Time One activities and/or the taking on of new but non-disaster-related tasks. The local mental health system did not react, rebound and respond as a unitary whole.

The contract agencies are discussed in the same order in which they were examined in the previous chapter. They are not necessarily looked at in the order of either their degree of involvement in the mental health response after the tornado, nor the degree of disaster-related change that they may have undergone as they behaved in Time Two.

1. Guidance Center. Before the tornado, the Center was one service agency in Xenia whose orientation most closely approximated the medical model of mental health treatment. Its continued use of long-term therapy, chemotherapy and psychiatric casework indicated this. While for some time prior to the tornado, the Guidance Center had been assuming new functions such as aftercare and consultation services and adapting new techniques such as group therapy and limited crisis intervention, it remained primarily an outpatient treatment clinic specializing in individual therapy. As in the instance of most outpatient treatment clinics established in the 1950s as extensions of the State Hospital system, it had found the shift to a community or human services orientation slow and difficult.

The various tentative efforts of the Guidance Center to undertake new tasks in the immediate emergency period after the tornado was noted earlier. However, we have already indicated that in the main, the Center remained essentially a Type I organization, an established agency providing its usual services.

The later Time Two behavior of the Guidance Center was marked by fewer attempts at major innovations. In actual fact, for all practical purposes it was not really until six weeks after the tornado that the Guidance Center was able to resume its routine service delivery. Lacking adequate facilities for carrying on group and individual therapy, the agency in the meantime concentrated on contacting existing and former clients, providing some walk-in services through the use of a half a dozen volunteers on loan to the agency by other organizations, and offering some limited consultation and education services to the staff of various schools and day care centers. By July, three months after the tornado, the Guidance Center had located more permanent office space and was, therefore, able to return to its ongoing activities. Soon after that, the Disaster Follow-Up Group was transferred to the agency for its supervision. But other than this program which for the most part functioned relatively autonomously, the Guidance Center instituted no new major services in response to the tornado.

The addition of personnel did create some difficulties. Soon after the disaster, volunteers appeared from everywhere. There were problems adjusting to all this new personnel. As one staff member noted, the organization had...

...a lot of volunteers from various local agencies, from Dayton and others in surrounding communities who wanted to help. But there was really nothing they could do. They had no more to offer than we did because they had never worked in disasters before. They didn't even know the local community so they could make good referrals.

However, apart from the internal organizational stress occasioned, did such an expansion make a difference in the services provided? While the general picture is clear, an exact answer is difficult to provide. This is because apart from unclear terminological classifications, the statistics obtained by DRC on Guidance Center operations from several sources were inconsistent and unreconcilable. However, two sets of figures on referrals and on case openings do not suggest that the Center experienced any substantial increase in the demand for its usual services during even the first six months after the tornado.

Thus, it appears that the number of actual case openings in April 1974 represents an increase of, at most, 12 openings over those in March 1974. This increase then is only two percent of the total case load for April 1974. Furthermore, of these new cases, nearly 60 percent were seen by the Center staff only once, a rough indicator of the moderate nature of most disorders treated. If this focus on the first month after the tornado seems to be too narrow a time focus, it can be noted that the longer-run trend in the case openings is not fundamentally different.

Thus, in comparing the organization's average monthly case load for the six months prior to the tornado with the average monthly case load for the six months following the disaster, there was, in fact, an 8.5

percent decrease in clients subsequent to the disaster. Furthermore, in looking at the more long-run picture, the agency's monthly case load dropped by 35 percent in the following six months of October through March, as compared to the same six months in the year prior to the tornado. This is an interesting statistic since the Disaster Follow-Up outreach effort supervised by the agency was terminated after about six months, although even this could not possibly account for such a dramatic drop.

Also perhaps significant in indicating the kinds of persons who made up these figures is the comment of one staff member:

I really think we got involved in a very few, proportionately very few, specifically disaster-related cases. We dealt with those we had been dealing with before. We got those who had been in previous contact with us. But, as far as reaching out to new people, it seemed like we were not involved. Maybe I am a little disappointed, talk about expectations, that we didn't have an opportunity to serve some of the others that we had no contact with previously.

The referral figures are not inconsistent with the general pattern. Thus, while a total of 48 tornado-related referrals were made to the agency in April, this figure is actually 15 percent less than the total number of referrals made to the agency in the preceding month prior to the tornado. But, of these referrals, only 50 percent eventually became active cases, and these clients were rarely seen more than once or twice. In effect, this data reflects that the type of service delivered to most tornado victims was typically brief psychotherapy or crisis intervention, or the client was simply referred elsewhere. However, it also suggests that 50 percent of all referrals to this agency were somewhat inappropriate. That is, the service the client was seeking was not available from the Guidance Center; therefore, that agency's function during the first few weeks after the tornado was largely that of linking individuals with the appropriate source of help.

Furthermore, even looking at the situation in terms of the long run, the major sources of referrals in the six months after the tornado were not other mental health agencies, but rather disaster agencies concentrating on meeting physical needs. The Red Cross and HUD (Housing and Urban Development) together accounted for more than 30 percent of all referrals to the Guidance Center. The next highest agency, the Crisis Center, was responsible for only 14 percent of the total referrals made to the organization.

One other interesting set of statistics is that from January through May 1974 there were almost no case terminations at the Center. But in June of 1974 the organization terminated 152 cases representing almost 30 percent of the previous month's case load. According to a member of the Guidance Center's staff, the additional personnel obtained in April to assist in disaster efforts permitted the agency to close cases that they had wanted to terminate earlier.

All these statistics must be seen against the fact that once more permanent facilities had been located, the agency proceeded to write a letter to every person who had been identified by either the volunteers working in the shelters during the post-impact period or by other disaster relief agencies as possibly needing the assistance of the Guidance Center. The purpose of this letter was to offer the services of the agency to these individuals; however, even this seems to have generated very little seeking of services by victims. (The Interfaith-DRC survey showed only two percent of the sample ever had any contact with the Center the first six months of Time Two.) Nevertheless, even though the Guidance Center never really experienced an upsurge in the number of clients demanding its services, considerable uncertainty was manifest as to whether or not this trend might drastically reverse itself with the passage of time, particularly as victims began to return to the community. This attitude is expressed in the following remarks made by a staff member of the Guidance Center about three months after the tornado.

I'm guessing that in the coming six, eight months or so, people are going to start returning to Xenia and rebuilding their houses and coming back after having been displaced. And I'm guessing that there will be readjustment problems after they return. They will be expecting everything to be like it was before, and it's not going to be like it was before. And I think that's going to be a very great disappointment. I am making a strong plea in terms of funding for the outreach program, with the argument that we need funding over the anniversary period, because we anticipate anniversary reactions.

Unable to secure an extension of such funding from the 648 Board, the Guidance Center therefore circumvented the board and approached the state directly for funding. Needless to say, this generated considerable conflict between the Guidance Center and the 648 Board and staff.

It was probably compounded by the fact that the source of funding of the Center had also changed in the year following the tornado. Whereas the agency had previously relied on funding from the United Way in addition to the 648 Board, by April 1975 the Guidance Center was financed exclusively by the 648 Board. As a consequence, it received over one-fourth of the total levy monies available for mental health in Greene County.

Also during the year there had been some internal reorganizations and rearrangements. The Clinton County branch of the Center had become an independent agency, and plans were underway to expand the Fairborn extension of the Center into a daily operation. In addition, the Creative Living Center, a day treatment program which had, according to one key participant, been a rather "ineffectual" service at the time of the tornado, was reinvigorated, and brought even more directly under the Guidance Center. (In Chapter III on context, we treated this program,

in fact, as a separate contract agency because it was considered as such in Time One, even though then it was also under the supervision of the Guidance Center.) By April 1975 this unit had grown from two paid staff members to four paid staff and two volunteers. Furthermore, the activity level of the program had increased concomitantly with plans to increase further the services offered in June 1975.

Disregarding the temporary increase in volunteer staff in the first few months following the tornado, the total number of paid full-time professional staff members employed by the Guidance Center increased from six persons to 11 between April 1974 and April 1975. In line with the newly developing community mental health plan, one of these staff members was assigned as aftercare coordinator; and, as already mentioned, two of them were added to the Creative Living Center. The remaining two persons were taken on at the outpatient clinic itself, thereby increasing the clinic's staff to a total of eight persons with a consulting psychiatrist in addition.

The major long-term changes in the Guidance Center, therefore, were primarily manifest in terms of organizational linkages and internal restructuring rather than changes or acquisitions of new tasks. Even the aftercare coordinator was not an example of a change in tasks for the agency. For although the position itself was new, the function of aftercare had already been an explicit task of the Guidance Center prior to the tornado. In the long run, therefore, the changes which occurred in the Guidance Center reflect more of a shift in its overall priorities of service delivery, rather than in the actual nature of its tasks or services. Thus, one year after the tornado, the agency still offered basic outpatient services, although, as the case load data suggests, at a reduced level. But more emphasis was being placed on the provision of alternate care services as prescribed by the Guidance Center's new contract with the 648 Board.

2. Yellow Springs Encounter. Aside from some already mentioned work that individual members of its staff voluntarily undertook in the emergency period, the organization itself was little affected by the tornado. Its operation was essentially uninterrupted. Only one disaster victim was treated. Although statistics on case loads show an almost invariant increase in cases from early 1973 to the present, the Inter-faith-DRC survey did not find a single person in its sample who had made any contact with the organization in the first six months of Time Two. There is no evidence of either increase in demands or that the resource capabilities of the agency changed in Time Two as a result of the tornado.

However, for other reasons unrelated to the disaster, Encounter did undergo substantial amounts of changes in the year after the tornado. By April 1975 it had made rather substantial shifts in the types of services it was providing. It was a different Type I organization later in Time Two than it had been in Time One, but as a result of non-disaster-related conditions.

3. Crisis Center. While the Crisis Center, as already discussed, experienced a very dramatic increase in demands for non-traditional services during the month of April when the tornado struck, this pattern did not persist over time. In May, the total number of contacts made by the agency declined to 634 (compared to 4,446 total contacts in April, 93 percent of which were disaster-related). While this is considerably less than the April figures, it still represents an increase of about 50 percent over the average number of contacts per month for the six month period prior to the disaster; and approximately 28 percent of these calls in May were disaster-related. However, in the month of June, the number of disaster-associated contacts dropped significantly, to less than ten percent of the total contacts that month. In July and August disaster calls made up less than five percent of the total requests for services. Also, in comparing the agency's average monthly workload for the six months prior to the tornado with the same figure for the six months after the tornado (i.e., excluding the month of April), we find that there was approximately a 20 percent overall increase in the total number of calls received during the post-impact six month period. Further, this increase in demands for services was sustained throughout the remainder of the one year period following the disaster. Yet it is difficult to determine whether or not this increase in contacts came about as a result of the tornado, since after August, the organization no longer differentiated disaster- and non-disaster-related contacts.

However, in comparing the nature of the calls or services requested for the pre- and post-impact periods, there was only one significant change in the overall pattern of services delivered. That is, for the months of April, May, June, July, and August following the tornado, the requests for drug-related services dropped to about 1/2 their usual rate. It is important to stress, however, that even prior to the tornado, drug-related contacts made up on the average only 12 percent of the agency's case load. But for the six month period after the tornado, the number of drug-related contacts declined to an average of about seven percent of the agency's total case load. However, after the initial six month period following the disaster, the demands for drug-related services gradually increased to their pre-tornado level of about 12 percent of the organization's total monthly case load.

In analyzing these figures, it appears that the factors which accounted for the dramatic flux in this agency's services during the immediate post-impact period did not persist over the long run. That the agency was one of the few local organizations which had some form of working communications after the tornado, and the fact that these were, as during normal times, available on a 24-hour-a-day basis perhaps contributed to the large number of demands for services rapidly placed on the Crisis Center. It is certainly clear that the agency's formal involvement with specifically disaster-related services did drop radically after the first two months. In fact, from that time on, the primary contribution made by the Crisis Center to the delivery of disaster-related mental health services was through the volunteer efforts of its staff with the Follow-Up Group. A large number of the agency's

volunteers participated as outreach workers for this group, and the director of the Center assisted in the training of the group's outreach volunteers during the six months subsequent to the disaster.

Because of the lack of involvement of the other community mental health agencies immediately after the tornado, the activities of the Crisis Center particularly stood out. However, in relatively short time, the Center lost its saliency, a fact which disappointed some of its members. But the new tasks which the Center developed at the height of the emergency period was clearly something that was not going to last. As the demands for general information were increasingly met by other organizations after the tornado, the saliency of the agency receded. Its temporary existence as a Type II organization, an established group with new tasks, came to an end. In fact, the Crisis Center itself, as we shall indicate in the section below, merged with another agency.

4. The United Health Foundation Drug Education Program. In an organizational sense, this agency ceased to exist in the months following the disaster. All its programs stopped. It is true that the organization's two full-time staff members acted as volunteers for the Crisis Center during the early stages after the tornado. But since the two agencies involved have traditionally operated more or less very closely together, this volunteer activity in itself cannot be viewed as emergent phenomena. And in one sense the agency program was never resumed in the way it was in Time One.

This is because about five months after the tornado, the Crisis Center and the United Health Foundation Drug Education Program were merged into one agency. This reorganization, however, did not seem to be related to the tornado event, but was more of an effort to provide a more comprehensive drug service program in the area. The significance of this merger was that the combined agencies, while continuing to receive state matching money through the 648 Board, would also acquire additional funding from the United Health Foundation in Dayton. In fact, the new drug agency was formally considered a subdivision of this agency and was named the Greene County Drug Services, Division of the United Health Foundation of the Dayton Area, Inc. Concurrent with the merger, the Greene County-UHF Drug Services Program organized a new board which consisted of several prominent community leaders, including prestigious members of the local medical community. In spite of this merger, however, one year after the tornado, the tasks engaged in by the new group were virtually no different from those performed by the previously distinct organizations.

5. The Yellow Springs Senior Citizens. Since the tornado, this agency was absorbed by the Commission on Aging and was renamed the Greene County Commission on Aging. Under its older format it was a program designed to help meet the social, emotional and physical needs of persons in Yellow Springs and Miami Township who were over 55 years of age. The services offered consisted of referral and counseling services, recreational activities, transportation and an outreach or Home Visitation program.

Of most relevance to the organization's disaster-related activities is the Home Visitation Program. The chief goal of this outreach program was "to locate senior citizens, check on their well-being, direct them to proper agencies for assistance and listen to them with sympathy and understanding." The tornado did not appear to affect the program substantially since for almost two months following the tornado, the number of visits made remained quite stable (although in the instance of Yellow Springs itself, the number of visits dropped by about 30 percent). In late May, two new outreach workers were hired with special funds acquired from the 648 Board, and the number of visits in Fairborn (which is where a number of tornado victims temporarily relocated) increased significantly. But the limited statistics made available to DRC, showed that in other areas serviced by the organization, there was no change indicated in the number of visits. Furthermore, the Inter-faith-DRC survey, which did not differentiate between the Yellow Springs and the Xenia Golden Age group, found that only one percent of the sample had any contact with either one of the two organizations. But taking into account some weaknesses in the record-keeping procedures of the organization, it does not appear that its Time Two services were significantly different either in quantity or quality from Time One. It had, in terms of our typology, the characteristics of a Type I existing organization. Insofar as the rather substantial changes it underwent in the later period of Time Two when it was absorbed by the Commission on Aging, these were again not directly related to the disaster experience.

6. The Aftercare Program. The Greene County Public Health Department, as noted earlier, was one component of the aftercare project operated by the 648 Board at the time of the tornado. Aftercare involved home care visits made under the orders of physicians for the purpose of giving prescribed injections, supervising medication, and noting the general physical and mental health of the patient. Although the health department greatly expanded many of its other operations, including its alcoholism services (which we will discuss later) and health promotion visits, the aftercare program was little affected by the tornado. In fact, there was no significant increase in home care patients in the months following the tornado, and the number of visits to each client remained relatively stable. Insofar as the specific mental health functions of the Health Department are concerned, it can be best categorized as an existing agency with usual tasks, a Type I organization.

7. Emergency Psychiatric Service. As was discussed earlier, this program was virtually replaced by the emergent activities undertaken in the hospital under the Three Stage Plan. However, within a few weeks, the hospital emergency and psychiatric service returned to its normal operation. There was no significant alteration in the demands for this service in the rest of the Time Two period examined. Some question might be raised about the statistics involved, for virtually no public records were kept of the use of this facility, and little data was routinely reported to the 648 Board and staff. However, verbal statements from key informants seem to make it safe to assume that there was no increase in use after the tornado. If true, this is a rather interesting finding given the presumed vulnerability of this category of persons to

problems even under normal circumstances. Insofar as the specific mental health functions of the Health Department are concerned, it can be best categorized as an existing agency with usual tasks, a Type I organization.

8. The Day Treatment Program. As already indicated, it came during Time Two, under the greater supervision of the Guidance Center.

9. The Greene County Council for Retarded Children. There were no major disaster-related changes that took place in this organization. There were no alterations in either demands or capabilities that were related to the tornado event, although other significant changes took place.

10. The 648 Board and Staff. For the 648 Board and staff, the demarcation between the emergency period and the longer-run recovery period was relatively clear. It was approximately three weeks after the tornado when the board finally held its first formal meeting after the tornado. (Most participants remember the meeting as focusing on certain topics although a few thought some of the points instead may have been discussed in the later May meeting; but our evidence supports the recollection of the majority.) For several board members, it was at this meeting where they first learned of the various decisions and actions already taken by the 648 staff in responding to the tornado. For the staff, this was the first opportunity they had to account to the board for their prior actions. And what is most evident about this meeting was the attempt on the part of the board to regain a certain amount of control and supervision over the actions of the staff, that is, to resume normal pre-disaster patterns of decision making and lines of authority between the staff and the board. In fact, one staff member summarized what transpired at that first meeting in the following way:

I don't think they had too much objection to the new outreach and disaster programs themselves. I think they were feeling that maybe some important decisions were being made without their being too aware of what was going on.

In general, some of the board's actions and discussions were at variance on some significant matters with the pressure that the community mental health system was under from outside groups and agencies. In a way, the internal dynamics of the policy and decision-making core of the community mental health system generated counterpressures to those being put on the system from outside the local area.

For instance, board members suggested that there was a danger in becoming too tied to disaster-related activities, in fact, that such an emphasis might threaten the effective overall delivery of mental health services generally. As was discussed in the context chapter, at the time of the tornado the 648 Board was in the process of rather extensive revisions of mental health services. Some of the board members felt the tornado had tended to turn attention from these considerations.

As already alluded to, another source of criticism at the meeting was the use of paraprofessionals in one of the 648 contract agencies, the Disaster Follow-Up Group. In the opinion of some board members, persons with very little or no formal training in mental health were not only unable to treat persons with mental health problems, but it is probable in many instances they could not even identify people who needed treatment. This criticism and the previous one were not likely to encourage innovation on the part of the 648 staff, and supported the reluctance of some of them to get overinvolved in the response to the disaster.

A few board members also expressed great concern over the actions of the 648 staff. This concern, however, was not over actions which the staff may have been accused of failing to take, such as providing coordination and leadership for an immediate disaster response, but for actions which they did take. Specifically, the staff was reprimanded by at least part of the board for instituting programs for which money had not been officially authorized and for acting without board approval. Although the majority of the board supported most of the action of the staff, the incident did have the effect of making accountability a much more explicit concern than it had been in previous months.

This attitude was reinforced by the actions of the state with respect to funding. The \$20,000 of returned per capita money was made almost immediately available by the state. However, the additional funds which the 648 Board had been told were available at their request, as described earlier, were delayed until late June. By that time, certain disaster-related programs had been instituted. But the raising of the issue in the first meeting, and the seeming uncertainty as to the actual receipt of money, discouraged any commitment to anything more than short-term, month-to-month funding. As one 648 staff member said:

Someone from the State Division had written a memorandum ... and said that emergency money would be made available to the 648 Board... (which) was to be the sole administrator of this money... but when we held the board meeting, well, things began to change. We called the budget committee together and read this memorandum from the state, except that when you opened up the envelope, no check fell out. All we got was an armful of authority. But every agency, and agencies we never had heard of, (were) hitting us for money. We didn't have any emergency money. So we took the state's word and authorized some of the agencies to employ people on a month-to-month basis. But these board members were worried about doing this without having the money.

In addition, at the April board meeting, a question was raised about the desirability of hiring outside consultants. The issue turned out to be a procedural one, but again its very raising was unlikely to reinforce independence and innovative action on the part of the 648 staff. The source of the criticism appeared to be the fact that the request for one consultant's services was another example of action taken by the staff without the prior approval of the board.

In the weeks following this first meeting, the staff focused most of its attention on the pre-disaster task of preparing the projected biennial community mental health plan and budget to be submitted to the State Division of Mental Health on June 30, 1974. Meanwhile, the two special disaster projects, Interfaith and the Disaster Follow-Up Group, received only minimal direction in designing and implementing their programs. Both project directors were to report regularly to one 648 staff member; but, for all practical purposes, these two emergent groups functioned relatively autonomously even in their formative stages. During this time, the major concern of the 648 staff was clearly with developing the overall community plan for the board and state's approval and with deciding how best to utilize the remainder of the available disaster funds released by the state to establish new services which would tie in and be consistent with this new plan. A debate was already underway as to just how long the two outreach programs should continue, and neither the board nor the staff wished to create any more new disaster services which could not be retained as more permanent components in the larger mental health delivery system. Thus, with these tasks confronting them, the board met again in early May.

By the last week in June, the board held its third monthly meeting following the tornado. The projected biennial community plan was complete and ready to be submitted to the state. Therefore, it was at this meeting when the special disaster consultant hired by the 648 staff over two months prior to this time was first introduced to the full board.

From this time on, the 648 Board and staff increasingly turned attention away from the disaster and directed most efforts to the planning and gradual implementation of the new mental health delivery system. To accomplish this, meetings were held with the various contract agencies and other community groups regarding program changes. A new 648 staff member was hired to be budget director for the soon to be greatly expanded mental health system, and a second clerical person was brought on the staff. Plans were made to utilize additional state disaster funds for the early implementation of two previously planned components of the new service network, the children's mental health program and the emergency support services. In the meantime, the decision was made to terminate funding for the two emergent groups at the end of October, six months after the disaster. It was anticipated that by then, the larger mental health system's capability to handle any longer run mental health problems stemming from the disaster would be adequate. This decision to abandon the outreach programs and the relative lack of attention and supervision supplied to these two emergent groups, and especially the more strictly mental health-oriented Follow-Up Group, led various contract agencies to surmise that the 648 Board and staff had virtually "washed its hands of the disaster." This attitude is conveyed in the following remarks of a staff member of one contract agency:

The decision was handed down that these programs would end in October, even before the anniversary date. I guess what the 648 staff has done is to declare the disaster over by terminating the outreach program. I think they just want to stay out of the whole thing at this point.

This assessment of the 648 Board and staff's decreasing concern with the two new disaster projects is perhaps an accurate one. Indeed, more and more time was devoted to planning efforts in order to institute the new services by January 1975, when the levy money would become available. Other tasks confronted the staff, such as recruiting program directors for the children's mental health program and the emergency support services. By October, in fact, both programs were launched with the filling of the directorship positions. Standardized policies through which to administer the various contract agencies were also formulated by the board and the staff. At the same time, the 648 Board was beginning to assume more leadership in relation to the staff and was taking a more active role in planning as well. In effect, throughout the year subsequent to the disaster, decision making with respect to service priorities and program development was increasingly centralized. For the first time, the board and staff attempted to assume the central coordinating and planning functions delegated to it under the 648 state law.

Not unrelated to this, at the same time, covert and overt conflict increased between the various components of the local community mental health delivery system, and particularly among those agencies directed to modify their services or to merge with other groups under the new plan. Often the disagreement between the 648 staff and various contract agencies surfaced around requests for additional funding for supposedly disaster-related activities. In fact, the speculation that there might be a massive upsurge in demands for mental health services as a result of delayed disaster reaction was frequently used to justify pleas for further funding. In addition, other groups peripheral or outside the formal mental health delivery system, but providing mental health-related services, such as in the medical area, began to exert pressure on the 648 Board. They pressed their own priorities and ideas about program development. As a result, by April 1975, a year after the tornado, the 648 Board and staff were enmeshed in a partly disaster-related bitter conflict with other mental health and non-mental health organizations in the community. The unusual circumstance of a daily newspaper in such a small town helped to fuel the controversy. Prominently displayed stories and sharp editorial comments revealed that at least one segment of the community power structure was dissatisfied with the new mental health delivery system being implemented.

With all the planning as well as the increasing controversy involved, it is not surprising that the 648 system gave little attention to the development of any other new special disaster projects. Of

course the failure to initiate such activities was in line with the orientation of at least the 648 staff almost from the time the tornado cloud lifted past the northern boundaries of Xenia. The two emergent groups that provided mental health services were, as already indicated, given some support but little encouragement. After these two emergent groups were terminated, the primary tactic employed by the 648 Board was that of increasing the overall capabilities of the formal mental health delivery system so that it would be able to handle any possible increase in clients as a result of the disaster. In other words, the thinking was that the most appropriate way to meet possible accelerations in demands for disaster-related services was to build the general service capability of the system. The implementation of an already Time One-planned new community mental health delivery system was perceived as a more viable way of dealing with the possible problem, rather than by continuing or adding any more temporary groups or special projects.

However, as far as the 648 Board and staff were concerned, there was continuous pressure to add specific disaster-related activities. Thus, about eight months after the tornado, the 648 staff felt itself pushed by the State of Ohio Division of Mental Health to develop programs in order to obtain some remaining and unencumbered but disaster-mandated funds promised to the state by the federal government. Although some state representatives were not always clear on this point in discussions with local officials, the funds had to be used for some disaster-relevant purposes. Subsequently, the state suggested that the money might be used to establish or continue some specific disaster-related mental health programs. But the 648 Board and staff were very reluctant to embark on any more special disaster projects; they were, in the first place, rather skeptical as to any actual demand in the community for any further disaster-related services and were also heavily involved in attempting to set up and implement the new mental health delivery system. Nevertheless, whether intended or not, they saw themselves pushed to conjuring up some seemingly relevant projects and applying for the funding.

A series of meetings were held between local Greene County agency heads, various state officials, and, on one occasion, with key officials from NIMH about the possibilities of establishing and funding such new disaster services. In April 1975, one year after the tornado, the 648 Board and staff yielded to the perceived pressure and submitted and approved a plan for a new network of disaster services. This was to be funded for six months beginning in April 1975. Included in these programs were the already existing institutional and outreach advocacy services of Interfaith (for even after termination of 648 support in October, the organization continued to offer these services to disaster victims), a pastoral training program to be conducted jointly with Interfaith, contract arrangements with the Xenia school system for disaster-related mental health services, and a mental health clinic to be located at Central State University serving the students and community of Wilberforce and Central State. The Interfaith advocacy services were to get a little more than half of the total budget of about \$175,000.

Thus, just as the early response to the disaster of the 648 staff was primarily a reaction to the initiative taken by extra-systemic groups, so was the Time Two longer-run response. Insofar as the delivery of mental health services was concerned, the 648 staff was reacting rather than acting; it followed reluctantly rather than initiated. Much of the initial impetus behind the early attempts to provide mental health services, including the Three Stage Plan, came from federal, regional and state mental health groups and the community mental health centers and personnel from Dayton. Somewhat similarly, much of the longer-run disaster-related activities of the 648 staff was a parallel reluctant reaction to several state agencies. A difference was that insofar as the longer-run response was concerned, the 648 staff was backed up directly by the 648 Board which generated, as indicated earlier, considerable counterpressure to all intra- and extra-systemic efforts to deviate the local mental health service delivery system from developing in the way and in the directions that had been planned in Time One. Left to themselves, there is little doubt that the 648 Board and staff would not have taken any special or extra steps either in the short or long run to deal with disaster-related mental health problems. The projected "normal" growth of the local system would have been seen as providing whatever additional capability was needed to handle whatever possible increases in demand that might have occurred as a result of the disaster.

Peripheral and Other Organizations

But whatever the general orientation of the community mental health delivery system clustered around the 648 Board and staff (and there were exceptions even within the system as illustrated by the Crisis Center and in a more confused way by the Guidance Center), peripheral and marginal groups and organizations in a less self-conscious way provided services in the long run that were not that distinguishable from what the system itself attempted and provided. As noted in the context chapter, the quasi-mental health and other groups delivered an indeterminate amount of mental health services in Time One; they did the same in Time Two. We will simply give some illustrations.

Some existing social service agencies simply continued to carry out their usual tasks in Time Two. Thus, for example, Family Services provided tornado victims with counseling and provided others with its traditional services. The Bureau of Vocational Rehabilitation, the Community Action Council, Planned Parenthood and the Public Welfare Department were among those organizations which offered traditional services seemingly relevant to mental health care. They remained Type I organizations. Other existing agencies in the Xenia area either altered their tasks somewhat (becoming Type II organizations) or made other kinds of changes. Examples of the former were Metropolitan Churches United, Welfare Rights, Easter Seals and Golden Age Senior Citizens of Xenia. An illustration of the latter, although from outside of the local community, was Catholic Social Services. This organization, which had been located in Dayton for more than 50 years, established a new office in Xenia and broadened its tasks to include outreach services -- a pattern

characteristic of the emergent groups we have discussed. However, it is perhaps important to note that the Interfaith-DRC survey showed very low contact (two or three percent of all households) with the above organizations as were named in the survey (the sole exception being the Welfare Department).

Another organization which provided a service which might be construed as having mental health implications for disaster victims was the alcoholism program operated by the County Health Department. The detoxification center offers individual and group therapy, rehabilitation services, and home visitations to problem drinkers. Among the predictions made by some outside experts following the tornado was that of an increase in the use of alcohol among the population. This was a projection based largely on conjecture and analogy with other stress situations, although it has never been substantiated for disaster situations. Nevertheless, in an effort to counter this possible problem, the Greene County Health Department received special funding from the State Department of Health to expand its existing alcoholism services. In the months following the disaster, the program almost doubled their case load. However, it is difficult to determine the extent to which this was, in fact, the result of an increase in problem drinking, or in the availability of services to those who may have already needed them prior to the tornado. The Interfaith-DRC survey data does not support the first position. It shows that more people decreased their use of alcohol (14 percent) than increased their use (six percent) after the disaster. Thus, the overall rise in problem drinking reported by the Health Department may be an artifact of their own increased activities. But even if this is so, it does not deny the fact that certain services were offered in Time Two that had mental health relevance, even though there may have been no direct connection with the disaster.

The traditional emergency relief agencies, the Red Cross, the Salvation Army and the Mennonite Disaster Service, of course performed their usual disaster tasks. Since these organizations focus on providing material and physical assistance to victims in order to alleviate their emergency needs, the main thrust of their efforts were not directed specifically toward providing mental health intervention. However, some of their activities might be viewed as therapeutic, or at least as preventative mental health efforts, similar to those provided by the two emergent outreach groups discussed. This is the case because not only do personnel in these organizations often provide services which in the broad sense may be construed as counseling in the context of performing their disaster relief efforts, but in this particular disaster the Red Cross was one of the highest sources of referrals for the Guidance Center in the weeks following the tornado. In fact, the Interfaith-DRC survey showed that an astounding 34 percent of all households in Xenia received some assistance from the Red Cross.

One of the most deeply rooted beliefs in the mental health area and also a common belief among the populace at large is the high vulnerability of children to extreme stress situations. Here again there is

little concrete and systematic evidence supporting such a position with respect to disaster experiences (the Interfaith-DRC survey data do not). But given the widespread nature and tenacity of the belief, it would have been very surprising if a program directed exclusively at the younger portions of the population had not been developed. Such an undertaking was pursued by one of the Dayton community mental health centers through its Children's Program, a pre-existent counseling service specializing in children's emotional problems. This existing agency extended its activities into the new task of providing special disaster-related services for children. Thus, when the schools reopened in the last week of April, staff members of the Children's Program instituted "circle groups" in the elementary grades. This involved gathering together the children, usually on a weekly basis, and encouraging them to express their feelings about the tornado experience through talking or drawing. Although the circle groups were supervised by the staff members of the Children's Program there were also attempts, with varying success, to involve teachers in the program. Efforts to involve high school children, teachers, school administrators and parents in such groups were generally unsuccessful with some exceptions among the last category. However, the entire program ended when schools were closed for the summer.

As can be noted in the examples given, almost all of the activities of the groups and organizations peripheral or marginal to the local community mental health delivery system worked rather independently of the 648 Board and staff and the contract agencies. In most cases, there was but bare awareness that the just discussed organizations and other groups were providing the kinds of services indicated. However, there were a few exceptions to this pattern of independent operations totally outside of the local mental health service delivery system in the Xenia area.

For example, the Clark County Mental Health Center established some links with the local system. A few days after the tornado, an agreement was reached whereby Greene County residents who evacuated to Clark County would be treated as residents of the latter county, i.e., they would not be charged a fee for mental health services provided. But between April and September 1974 it appears that less than 15 Greene County residents were treated under this arrangement.

Also, six to eight weeks after the tornado a staff member of the Greene County Guidance Center asked the Clark County Center to take over the operations of the Guidance Center's branch in Fairborn. It was alleged that the Guidance Center was unable to deliver adequate services to Fairborn residents because of the increased demands on the parent organization in Xenia. The Clark County Mental Health Center, utilizing two-person crisis teams, took over the Fairborn operations for slightly over two months but handled only one client whose primary source of stress was the tornado experience. All other cases exhibited Time One sources of problems or had had earlier contact with the Fairborn branch.

This brief overview of peripheral mental health and other agencies involved in the longer-run response to the tornado disaster, but outside of the local mental health system, suggests several things. A number of established organizations within and outside of Xenia, in carrying out old or traditional tasks, almost certainly provided mental health services whether or not they were so labeled. Instead of remaining Type I organizations, some of the existing agencies took over or developed new tasks in an effort to provide services, thus becoming Type II organizations. These seemed to have developed when there were gaps or at least perceived gaps in the services being provided by the local system such as outreach or children's programs. It is also clear that the bulk of the peripheral and other organizations worked almost totally independently of the local system, making no noticeable attempts at providing information about their activities much less coordinating them with the 648 system operations. Finally, all of these groups provided a certain capability and met certain demands insofar as disaster-related mental health programs around Xenia were concerned. Any specific figures about services delivered would be a wild guess; nevertheless, such statistics and evidence as there is do not generally indicate any massive across-the-board demands by disaster victims for possibly mental health-relevant services. We can be sure that if, hypothetically, none of these extra-systemic organizations had been present in Time Two, the demands on the local community mental health delivery system would undoubtedly have been higher. But how much higher and what quantity of mental health services they actually provided in Time Two can only be answered in the same way as was said about their Time One behavior. These organizations provided an indeterminate amount of service.

The Time Two System

How did the community mental health delivery system behave after the tornado? As noted, many of the established parts of the system behaved in Time Two much as they had in Time One, and did not get involved in disaster activities. But what of the behavior of the established and emergent parts of the system which were involved in disaster-relevant tasks? In broad strokes, the picture we get is a mixed one. Most assuredly, the system response in both the short and long run was slow and uneven. Insofar as disaster-relevant activities were concerned, they were characterized by a searching for clients and a broad human service orientation. Furthermore, system activities relating directly to the disaster were predominantly aimed at prevention rather than treatment and assumed the total population as potential users of services. And, finally, extra-systemic groups were very important in giving impetus to the services delivered and adding to the services provided by the formal community mental health delivery system in the Xenia area.

More specifically, it is relatively clear that the majority of mental health services following the disaster were delivered by emergent

or Type II organizations. Not all parts of the system contributed equally, not even remotely so. With minor exceptions, the system and its subcomponents did not react quickly. In fact, the system as a whole only reacted when subject to extra-systemic pressures and influences.

Those systemic groups which found the most demand for their services were those that employed an outreach intervention strategy; those employing more traditional clinical procedures attracted few users. In short, the system was able to deliver services when it hunted for demands for the providing of services. Similarly, organizations which defined their tasks as providing mental health services in the broad sense of the term were far more successful. To the extent that the system remained focused on medical-like therapy rather than community services, little could be delivered.

The bulk of the services were provided out in the community rather than in a clinic or hospital setting. That is, the crisis intervention typically took place in shelters at first, then on the street, in bars, in people's homes, or wherever the outreach workers could find them. And the services delivered were primarily preventive in nature, especially since there was very little demand for treatment. Procedures used aimed at reaching as many people as possible, in an effort both to eradicate the immediate symptoms and to increase their resistance to more serious difficulties in the long run.

Thus, most of the mental health intervention following the disaster consisted of the delivery of basic human services, rather than clinical treatment or even brief therapy. However, the initial mental health efforts which were designed to take place in the shelters closely resembled a medical practice model, rather than a community service approach. For the most part, this strategy and others like it were not relevant in the disaster setting. By and large, the situation necessitated services which the local mental health system could not deliver through its existing organizations. Thus, many of the needed services were performed by emergent groups or by Type II organizations which undertook new tasks. There was no way the system could respond in terms of its Time One posture; it had to generate new groups or changed organizations to meet the problem of delivering mental health services. In this sense, a new division of labor was created in the system in Time Two.

However, the system was never integrated enough to function well, even though a variety of services were attempted or provided. Its central core, the 648 Board and staff, were never able either in the short run or long run to get together a well-coordinated effort insofar as the disaster response was concerned. In fact, much of the impetus for action in both the short and long run came from groups and organizations outside the local community mental health delivery system. Similarly, extra-systemic agencies independently provided an indeterminate amount of the mental health services delivered in Time Two.

If this was the behavior of the system in Time Two, how do we account for it? Why were these characteristics manifested rather than many others that were potentially possible? We turn in the next chapter to an analysis of the conditions associated with these characteristics of the local community mental health delivery system after the Xenia disaster.

V. CONDITIONS FOR THE MENTAL HEALTH DELIVERY SERVICES

In this chapter we consider the conditions responsible for the just discussed characteristics manifested by the mental health delivery system after the disaster. For purposes of exposition, they are divided into: (a) those conditions or factors carried over into Time Two from Time One before the tornado, and (b) those circumstances or aspects which emerged after the impact in Time Two. The former we designate as preconditions and the latter as postconditions, although both are operative in the post-impact period. Our discussion also draws a distinction between conditions that are endogenous or internal to the mental health delivery system being examined, and those exogenous or external, coming from outside the system in the Xenia area.

The Possible Conditions

Any analysis of conditions for any social phenomenon rests on two questions: (1) What is it that is being explained? and (2) What other prior phenomenon is the explanation? The first, in technical terms, is the explananda and the second is the explanantia (Wallace, 1969:3). In this case, we seek to explain the characteristics of what was observable in the Xenia area insofar as delivery of mental health services was concerned, generally, the behavior of the system as described in the previous chapter. Given that, we are interested in those factors that are associated with the behavioral phenomena. In short, we have to show a link between explananda and explanantia, between the characteristics of the system and some set of prior conditions.

The Explananda

What has to be accounted for is set forth in the previous chapter where the more salient characteristics of the post-disaster mental health service delivery system were described. It is apparent that the majority of the actual disaster-related services were delivered, in part as a result of pressure from outside the system, by emergent or extending organizations, i.e., totally new groups, or pre-existing agencies which performed new and different tasks or services. Further, an examination of the specific nature of the services provided by these groups revealed that they were primarily human services which were performed in the community rather than in the clinic and with an emphasis on prevention rather than the treatment of illness. In short, the treatment ideology, which eventually gained preeminence following the disaster, was the community mental health model instead of the traditional medical model. But it is significant that this perspective was not immediately self-evident after the disaster, since the first major mental health efforts were organized around the medical model of treatment.

Yet, while the bulk of the post-disaster mental health services was provided by emergent and extending organizations utilizing a community mental health strategy, as we have shown, it does not mean that

other groups were not also engaged in disaster-related service delivery. However, it is obvious that the overall involvement of the existing mental health agencies, i.e., those organizations which continued to provide essentially the same types of services as they did prior to the disaster, was much less intensive, intermittent, and along different lines. In fact, it is possible that the peripheral and marginal groups at the edge of the community mental health system, while delivering similar services, may have provided proportionately more disaster-related services than the existing agencies, although the matter is an open question.

While the above are some of the major or more salient specific characteristics, they actually involve at least six highly interrelated questions about the system that need to be answered:

(1) Why was there resistance, delay and never full commitment of the overall community mental health delivery system to delivering disaster-related services? This is essentially a question of the timing of the response of the system, having to do with when it responded.

(2) Why did some subcomponents of the system deliver most of the services? This question focuses primarily on who got involved, the parts of the system that responded to disaster-related problems.

(3) Why were human services rather than clinical treatments provided by the system? This is essentially a question of what the system offered with respect to disaster-related needs.

(4) Why were crisis intervention strategies used which involved an active going into the community instead of a passive waiting by mental health agencies for clients? This question deals with how the mental health services were delivered.

(5) Why was the major objective of the services delivered primarily of a preventive rather than treatment nature? This is basically a question of why did the system move in this one direction rather than the other.

(6) Why did the system take as its potential users the total population rather than a delimited segment of it? This question deals primarily with for whom the services were offered.

Given alternative possibilities of responding, the community mental health delivery system in the Xenia area responded generally along the lines indicated. This is the explanada -- what we need to account for in our analysis. Because the questions are highly interrelated, we make no attempt to discuss each separately, but instead try to suggest the set of conditions which might account for the overall constellation or pattern of the characteristics of the behavior of the system.

The Explanantia

A search for "causes" of any social phenomena is an exercise in mysticism and fails to recognize that "causality is a property of theoretical systems rather than of the world" (Mullins, 1974:4). But it is not amiss to attempt to seek out those prior sets of conditions which are associated or correlated with some later kind of social behavior. What phenomena, in the particular instance we are examining, could be seen as related to the kind of mental health delivery service system that existed in Xenia after the tornado?

The choice of answers is rather wide (see, e.g., Brouillette and Quarantelli, 1971). Two extremes can be used to illustrate the point. We could look at certain prevailing ideals in American society, for example, regarding human beings and mental health. Unlike in some other societies where DRC has conducted disaster studies such as in Iran and El Salvador, the individual is highly valued in this society. Thus it is assumed, without much thinking about the matter, that steps ought to be taken to try to insure the comfort and well-being of people involved in disasters. But there are cross-cultural differences (Clifford, 1956; Roth, 1970; Kates et al. 1973; McLuckie, 1975). Nevertheless, in American society in recent years, this category of help to be provided has come to include the mental as well as the physical health of the disaster victims. This is an almost unthought of socio-cultural ideal in most societies around the world as evidenced in studies of disasters and disaster planning outside of the United States and a few other areas. But it was clearly a factor in mobilizing an organized effort to provide mental health services after the Xenia tornado.

At another extreme we might examine the socialization process and motivational patterns of various specific participants involved in a disaster response. The different persons behaving in such kinds of situations are undoubtedly influenced by their particular biographies. Specific decisions and actions undertaken by one individual could be rather different from another individual also under extreme stress (e.g., see Erikson, 1963; Lifton, 1970 and Wolman, 1971). Depending on the life history involved, the head of a mental health organization might behave rather differently than another director of a similar agency. Wolfenstein (1957), for example, unfettered by any concrete data, freely speculates about unconscious psychic forces stemming, for instance, from earlier forgotten childhood experiences or deeply-rooted personality tendencies, that might lead to the evocation of one kind of individual disaster response over another. However, arcane and complex techniques would need to be used to plumb the depths of the information required for an understanding along these lines, depending on the particular psycho-historical orientation assumed.

However, the extreme macro- or micro-level analyses just suggested are neither necessary nor crucial for our purposes. We seek some understanding of organized efforts to provide mental health services in American disasters at the present time. The specific case is Xenia,

but as already emphasized, we are not attempting to account for all of the details of the response of that particular mental health delivery system. Instead, we primarily need to concern ourselves with an accounting of the characteristics of a system as generally depicted in Chapter I and more specifically delineated in the first part of this chapter.

We assume that two general classes of conditions are involved. Both are operative in Time Two of a disaster, but some of the conditions are simply carry-overs from Time One. The other conditions are those that develop or emerge after impact. The former set we designate as pre-conditions, and the latter set as postconditions.

There is perhaps a tendency at times to overestimate the importance of the latter and to underrate the influence of the former. It sometimes appears as if responses in Time Two are almost solely the result of factors which become operative as a direct result of the disaster event. Such a view is deceptively simple and altogether incomplete as an explanation. Much of what goes on after a disaster occurs in the context of the pre-disaster situation, or the preconditions in the situation. This does not mean that only things which existed before the disaster are important, but it does suggest that there is considerable continuity as well as discontinuity between Time One and Time Two.

As noted in Chapter III, there was a certain general context that led to the kind of mental health service delivery system that existed in Greene County at the time of the tornado. Some of that context became less influential after the tornado, but many of the prior commitments, conflicts, relationships interactions, etc., at both the personal and organizational levels, continued to exist in Time Two. Thus, many of the characteristics exhibited by the community mental health delivery system in the Xenia area simply reflected these preconditions. On the other hand, the tornado created or brought to the surface a variety of social factors which had not been present in Time One. Some of the characteristics of the community mental health delivery system consequently reflected these postconditions.

In analyzing both the pre- and postconditions influencing the delivery of mental health services following the disaster, we will discuss two types of factors. First of all, certain internal factors which affected the emergency capability of (as well as perceived demands on) the mental health system will be examined. "Internal or endogenous factors" has reference to the organizational dimensions of the 648 Board and its contract agencies. Being an open system, the boundaries of the local community mental health delivery system are rather loose and amorphous, so that it is often difficult to determine exactly what is internal and what is external to the system. However, this very vagueness of boundary is itself reflective of a commitment to the overall ideology of community mental health (Dinitz and Beran, 1971). Furthermore, for analytical purposes, it is justifiable to draw the kind of boundary indicated since at least formally the 648 Board is supposed to coordinate the bulk of the mental health services delivered in Greene County, and its contract agencies may in fact actually provide most such services.

If there is a system and it has boundaries, and there are internal factors operative, it logically follows that there must also be external ones. The community mental health delivery system in the Xenia area did not function in social isolation. It was embedded in a much larger social setting of interactions and interrelationships, some of which can be thought of as providing external or exogenous factors that affect the capability-demand ratio of the system. Consequently, it is necessary that we examine these external factors which influenced the response of the system. By external factors we mean the activities of local or outside groups and regulatory agencies not a part of the formal organizational cluster around the 648 Board, but who nevertheless provided some mental health services in the Xenia area in Time Two.

Thus, we look at both pre- and postconditions. And within each, we look at internal and external factors. In combination, such a kind of analysis should give a measure of knowledge and understanding about what affected and influenced the behavior of the community mental health service delivery system in the Xenia area following the disaster. This is the link we are trying to make between explanantia and explanada, between a set of conditions and the characteristics of the system.

Preconditions

Preconditions may be influential in two ways. Certain features of a pre-disaster situation may carry over directly into Time Two. Thus, prior interorganizational relationships, for example, might continue to operate after a disaster. For instance, in many crisis situations studied by DRC, the local civil defense office often lacks legitimacy in the local community because it has a poor resource base and is viewed as almost an outside group as a result of partial federal funding and regulations (Dynes and Quarantelli, 1975b). Aliens seldom can don or are given mantles of leadership or coordination. This inferior position of civil defense vis-a-vis other community organizations is frequently not altered in Time Two, being carried over from the pre-disaster situation.

There is also a tendency to overestimate the difference between the behavior of groups in disaster situations and their more usual everyday setting. It is the case, as we shall discuss later, that organizations may sometimes significantly alter their functions and the ways they are organized so as to cope with a disaster. But it is rarely the case that major changes are implemented that have no precedence in the pre-disaster organizational patterns or activities. In one DRC study of four local hospitals involved in a major flood catastrophe, most of the short-term adaptations and long-run changes following the disaster could be traced back to organizational and systemic factors existing in Time One in that community (Blanshan, 1975). The seeds of change were present, ready to be flowered by the flood. Consequently, it seems necessary to take preconditions into account even when looking at new social phenomena in the Time Two period after disasters.

In the Xenia case we are examining, the most fruitful way of analyzing how the pre-tornado factors affected the mental health delivery system response seems to be the following. It is to view the Time One mental health system as having had a particular capability for delivering services. In general terms, and as indicated in Chapter I, the capability level of a system refers to the materials, funds, personnel and other resources which are available to meet the existing demands. In the Xenia area, the full implementation of the system capability can be thought of as the entire range of services which the various organizations coordinated by the 648 Board and staff could provide if appropriate decisions to do so were made.

Obviously the pre-disaster capability of a given delivery system would affect the types of adaptations necessary in order to cope with Time Two demands. However, it is not just the general capability level of the mental health system which must be analyzed, but the capability relevant to the types of demands imposed by the disaster, i.e., the emergency capability. In other words, while theoretically various systems may possess an equivalent latent capability, the same overall capability level may lead to the provision of rather different services based on the kinds of demands in the situation. One way in which systems or their constituent parts, i.e., organizations, can increase their capability to respond to crisis situations is through pre-planning. That is, by shifting into planned emergency operations stemming from alternative normative frameworks and/or structural arrangements, a system or organization can modify capability to respond concomitantly with the changes in demands that surface. Hospital disaster plans are such cases in point; the activation of such plans frees, provides or otherwise makes available additional personnel, facilities and equipment, and institutes quicker procedures than normally used for processing patients (Quarantelli, 1970). A latent capability is made manifest to deal with altered demands. However, this latent capability was not available to the Greene County mental health system since there was no such disaster pre-planning, either at the system or organizational level. There was no disaster plan. As such, any subsequent additional capability needed to respond to the tornado necessitated some type of adaptation by the existing system.

Endogenous Preconditions

In this section we will examine the internal pre-impact factors which influenced the delivery of mental health services following the disaster. Since the mental health system in the Xenia area had no formal emergency capability (i.e., a disaster plan), its capability after the tornado depended on what alterations could be made in the pre-disaster system capability. What affected this?

The data suggest that three types of internal factors affected the system's ability to make such adaptations. First of all, its capability level was dependent on the characteristics of the pre-existing or routine social structure through which mental health services were delivered. Obviously, certain structural arrangements are more flexible than others.

Therefore, by looking at the Time One structure of the mental health delivery system we can analyze the degree to which it was flexible enough to respond to the changes in demands for services produced by the disaster.

Secondly, the capability level is also related to the normative framework that existed. The framework is the constellation of rules, goals and beliefs that influenced the range and types of services or tasks performed by the different agencies or segments of the mental health delivery system prior to the tornado. This factor also would affect the flexibility of the system in responding to the needs of disaster victims, especially to the extent that certain routine services of the system coincided with the actual demands for services produced by the disaster.

Thirdly, the dynamics of the delivery system are examined as another internal factor which had an effect on the overall disaster response. Systems and their parts are always changing. Thus, existing trends can also affect the adaptability of a mental health system.

By considering these three internal factors, i.e., the structure, framework, and the dynamics of the system, we can determine in part the Time One conditions which affected the mental health system's overall disaster response.

Structural Aspects. Structures of all systems may be distinguished as to: (1) their pattern of horizontal or structural differentiation; (2) the location and distribution of authority; and (3) the degree to which their subunits are linked into networks and thus integrated. Each of these three structural dimensions can affect a system's ability to respond to rapid environmental changes, such as those created by a disaster event. While for exposition purposes we treat each dimension separately, in actual fact they interact with one another, either neutralizing conflicting tendencies or strengthening prevailing ones. We shall see that in the Xenia situation both tendencies existed.

Pattern of Structural Differentiation. As already noted, in Greene County the community mental health delivery system in Time One was primarily made up of a cluster of agencies linked to the 648 Board and staff. One aspect of the structure affecting the adaptive capability of this system was its pattern or degree of structural differentiation. By structural differentiation we mean the extent to which the system is formally subdivided to pursue its tasks or services. For instance, one agency, the Crisis Center, had the function of providing crisis intervention for drug users, while another, Yellow Springs Senior Citizens, had the responsibility for providing recreational and referral services to the aged. Another organization, the Guidance Center, provided outpatient services, and still another, the 648 staff, concentrated on planning and resource allocation. The horizontal differentiation was not total, for some of the groups provided overlapping or duplicating services. Nevertheless, by most criteria, the Time One mental health delivery system in the Xenia area was a fairly well differentiated one.

Actually such structural differentiation in itself may be favorable to an effective adaptation to disasters. Research has found, for instance, that highly differentiated organizations are often more effective in changing in "turbulent" environments than those groups exhibiting low differentiation (Burns and Stalker, 1961; Lawrence and Lorsch, 1969; Hage and Aiken, 1970). However, the differences in goals and orientations resulting from structural differentiation require greater efforts at integrating and coordinating the subunits. And although the system or organization may be highly differentiated, it must be integrated to perform effectively, regardless of the stability or turbulence of its environment (Lawrence and Lorsch, 1969).

This was not the case in the instance of the system in the Xenia area. As one 648 staff member said of the components of the system:

The agencies have never been very cooperative. Everybody stayed on their own turf. Senior Citizens don't want to be involved with the rest of the agencies in mental health because mental health scares them. Encounter Program did not cooperate with any of the rest of the agencies, so we cut a psychologist consultant out of their budget so that they would refer their people to the psychologists at the Guidance Center. They didn't make any referrals to one another. None of them did. Very seldom. Once in a while they made some, but it's not a set kind of pattern. And that's one thing that the new system wants to insure. They didn't argue with one another, but, you know, "just sort of leave me alone, and I'll leave you alone. We won't invade each other's territory."

If differentiation was the only factor to be considered here, we could safely state that the Time One Greene County mental health system, because of its high differentiation, should have been capable of adapting to environmental changes such as those occasioned by the tornado. However, the low integration of the system, along with other Time One conditions to be soon discussed, appeared to work against the influence of the adaptive nature of differentiation.

Location and Distribution of Authority. Authority in the local community mental health delivery system was relatively centralized. That is, the 648 Board functioned as the primary decision maker regarding the planning and establishment of service priorities. In general, high centralization of authority tends to facilitate rapid decision making more than does authority which is located at various levels within a particular system. Crisis situations almost invariably require that decision making processes be hastened (Dynes, 1970:167). However, although the highly centralized authority pattern of the mental health system in Xenia was potentially conducive to the creation of relatively rapid changes or innovations, there were other aspects of this configuration which set limits on the particular kinds of modifications likely to be made.

For example, under the 648 system as detailed in Chapter II, the contract agencies retained a degree of autonomy regarding the actual delivery of services. That is, these groups had some discretion to alter their treatment strategies in the face of changing demands for services. However, while this type of authority pattern would allow the agencies to make modifications in their mental health intervention strategies or techniques in a crisis situation, it did not generally permit a major reorientation in the basic kind of service delivery performed by an organization. Thus, if an agency's contract with the 648 Board specified that it was to deliver outpatient services, it could do this by any method which was thought to be effective. Yet it could not, without the approval of the 648 Board, suspend these services and take on new ones such as aftercare, education, etc. Thus, since the agencies had a relatively low degree of independence in this regard, it was unlikely that they would unilaterally alter their services in the face of the disaster. This relationship between low degree of autonomy and lack of initiative on undertaking new tasks has been also found in other crisis situations (Brouillette and Quarantelli, 1971:43).

Furthermore, other related factors worked against quickness of response and for the emergence of new groups. For instance, under the Time One pattern of authority, existing agencies were not required to change their intervention techniques and strategies, even if they were requested to do so by the 648 Board. Rationales are always easy to find. Thus, a Guidance Center staff member observed:

I think that the 648 Board would like us at the Guidance Center to go out of our offices more. One of the problems is that what a lot of people construe as outreach is oftentimes to visit people who have not invited you to come visit them. For example, the courts have at times expressed the desire that we go out and visit the homes of someone being considered for probate court because they want them in a mental hospital. Most people don't want to be probated to a mental hospital, and won't go voluntarily. So we have been kind of reluctant to invade people's homes. We did not want to be used by the court in terms of social control, you know. It is usually another family member who reports the person, so it's a family quarrel, and we find ourselves in the middle of the quarrel, and it's none of our business.

This lack of authority to enforce changes simply reinforces the tendency over time of almost all formal groups to resist changes in their organizational arrangements and activities (Starbuck, 1965). It also tended strongly to limit the option of the 648 Board to change significantly and independently the character of the existing service network. In effect, under the prevailing distribution of authority in the system, when new services are deemed necessary, they are most likely to occur through the creation of new agencies by the 648 Board. Of course, it is possible that the existing contract agencies could have made short-run alterations in their operations. But this assumes

an improbable flexibility of their own structures and service strategies, and, ultimately, on the priorities established and resources allocated by the 648 Board. For example, a particular outpatient clinic simply might not have the organizational arrangements for providing emergent outreach services following a disaster. And, even so, these efforts would doubtless require the eventual support of the 648 Board.

Thus, after looking at the effect which the location of authority had on the capability of the local mental health system to adapt to the disaster, some general observations can be made. It may be true that the centralization of decision making within the staff of the 648 Board should have facilitated relatively rapid decision making in reacting to the crisis. However, the fact is that swift action in response to the disaster did not occur. Some other major reasons for this will be elaborated further in this chapter, since they were the result of specific post-impact events which reduced the mental health system's capability to respond. However, one reason for the delay in taking action may be attributed to the degree of autonomy of the service agencies. This acted as a constraint on the implementation of rapid changes in the existing services by the 648 Board. Thus, to the extent that this was the case, the creation of new groups had to be the predominant mode of adaptation to the disaster. This tactic was bound to delay the overall response. Without a doubt, the establishment of entirely new organizations, even under nonstressful circumstances, is not something which can be accomplished quickly.

Degree of Integration. The third structural characteristic which can influence the capability of any system to adapt to extreme stress is the degree of integration of its parts or subunits. By integration we mean the extent to which the activities of subunits are connected and interrelated: the more networks in the system, the better its adaptive capability.

In the Xenia situation, while there were some factors which would make for system integration, there were others that weighed more strongly against it. To develop integration was the ideology of the community mental health approach, as noted in Chapter III, which pushes the various specialized subunits of a mental health system to have close linkages to one another in meeting routine demands placed upon them by the environment. These links include the sharing of diagnostic and other types of information and assessments of clients, and even the exchange of clients themselves through interagency referrals. To the extent that the separate and specialized organizations mutually supplemented and complemented one another's activities in such fashion, there would be a unified and integrated entity held together by a complex of service networks.

However, as was stated previously, the relatively autonomous organizations comprising the Greene County mental health system tended to be somewhat highly differentiated in their service delivery functions. In general, the existence of a high degree of structural differentiation

between the subparts of any system, which is designed to achieve unity of effort, makes for loose social networks. This is because differentiation and organizational specialization results in the acquisition or perpetuation of heterogeneous perspectives, goals, treatment strategies, etc., within the same system. For example, a crisis intervention agency which operates with a human services approach to service delivery might hesitate to refer clients to the outpatient clinic for more long-term psychotherapy (and vice versa), due to the ideological discrepancies between the two agencies. Hence, a high degree of differentiation has the potential to produce isolation of effort among agencies.

This, in fact, is well illustrated in the remarks of a Crisis Center staff member's observation of the organization's interaction with another 648 contract agency, Encounter.

But there are some real differences in our programs and philosophies, especially in the way we approach dealing with people. Like Encounter is very Gestalt and encounter-oriented, kind of get-in-touch-with-the-feelings oriented. But the Crisis Center works with a basic kind of crisis intervention model which is a self-help model to get the person to develop a method to cope, as opposed to getting in touch with feelings. Our approach is a more reality-oriented thing, rather than creating our own little separate social structure. We have only made a few referrals to Encounter because of these differences in philosophy, and I think only one really worked out. I think it's just that the nature of our programs is so different.

Moreover, structural differentiation can weaken integration because it may result in competition and even conflict between organizations when they hold contrasting ideologies of treatment and when they must demonstrate the superiority of their own approach in order to compete for resources. This was the situation that had developed in Xenia in Time One.

Prior to the passage of the levy in Greene County, the contract agencies for the most part carried out their activities in relative isolation from one another. Sometimes they demonstrated a modicum of cooperation and engaged in some interagency referral, but there was also little competition and conflict between them. However, as the agencies were directed by the 648 Board to further specialize or narrow down the services which they provided, and to therefore increase their interdependence on one another, conflict between certain of the organizations and between agencies and the 648 Board increased.

In looking at the relationship between the quality or state of integration of a mental health system and its ability to adapt, it is clear that any ongoing inconsistencies or strain between organizational elements can influence its adaptive mode. In the Xenia situation, the lack of a network of services linking the agencies made it difficult to muster the full capability of the system in the aftermath of the disaster. Generally speaking, if organizations do not exchange and

interrelate during normal times, this pattern will persist in a post-disaster setting. Furthermore, in Xenia the Time One interagency conflicts reemerged within weeks. While friction generated by differing orientations may be ordinarily overlooked, it can be totally fracturing of networks in extreme stress situations. Thus, as a whole, when the organizational components of a system manifest a high degree of strain over pre-disaster tasks or services, they will not modify their Time One tasks or services in Time Two. At most, structural changes, such as increasing size of staffs, will be attempted. In fact, this kind of response pattern was the one manifested in the community mental health delivery system in the Xenia disaster.

To summarize, three internal structural dimensions, i. e., the pattern of structural differentiation, the location and distribution of authority, and the quality of integration affected the capability of the mental health system to adapt. In general, the preceding analysis suggests that the Time One structural features of the delivery system set limits on the capability of the existing organizations to alter their tasks or services to the changing demands created by the disaster. Therefore, these internal factors account, in part, for the fact that there was only minimal adaptation by the existing contract agencies, and that which did occur typically did not involve tasks or service delivery. As such, any major modifications in the nature of the actual services to be delivered following the disaster would almost inevitably have had to be assumed by new or emergent groups. However, whether or not these adaptations were necessary was also dependent on the extent to which the framework of rules, values and beliefs operative in the Time One delivery system coincided with those which were needed following the disaster. Therefore, we now turn to an analysis of these factors.

Normative Aspects. Normative frameworks of all systems may be distinguished as to: (1) the diversity of means and procedures that might be expected to be used; (2) the hierarchy of priorities assigned to different values and goals; and (3) the assumptions made as to acceptable beliefs and views.

Each of these three normative dimensions can affect a system's ability to respond to the rapid environmental changes occasioned by a major and sudden disaster. We treat each of these dimensions separately for expositional purposes, but in actual fact, while interacting with one another, they may either reinforce or neutralize existing tendencies. In Xenia, there was both reinforcement and neutralization.

Diversity of Means. By diversity of means we refer to the range and variety of procedures that might be expected to be provided by the components of the mental health system on a routine basis. In this respect, a highly diverse system would be one which might expect to deliver a full range of comprehensive mental health services, whereas a low diversity one would imply a paucity and the relative absence of alternative treatment modalities in the services offered. While the existence of diversity enhances a system's ongoing capability to deliver

services, it can also have an effect on its adaptive capability. That is, when a multifirmity of services is available within a delivery system, it is more likely that at least some of these will accomodate changing or newly created demands. More specifically, a comprehensive delivery system would also be more inclined to include at least some social service facilities in the network, rather than relying solely on the more traditional clinical facilities. In general, the basic foundation for a particular service would exist, upon which expanded operations could be built. For example, if outreach services are a routine component of a particular delivery system, and a situation occurs wherein the demand for outreach efforts increases drastically, then the response pattern might be to expand the operations of the preexisting outreach agency. However, if the range of services is relatively small and limited in its scope, significant changes in the demands for services could necessitate the establishment of entirely new service agencies. Moreover, this latter type of system is less likely to have the relevant social service components, such as outreach, which appear necessary in meeting some of the demands created by disaster situations.

The Greene County mental health delivery system, while well developed compared with many other systems in Ohio, did not have a broad range of community mental health services at the time of the tornado. Basically the entire loose network of services consisted of outpatient services, drug services, very limited aftercare, extremely limited emergency psychiatric services, a few activities for the aged, and a mental retardation service. To be sure, most of the gaps and looseness in the service delivery network had been recognized by the 648 Board in Time One. In fact, as was indicated in Chapter III, planning was underway to render the network more complete and linked and steps were being taken when the tornado hit. But it is quite significant that those services which later emerged as the most crucial in dealing with disaster victims were notably absent from the pre-disaster service network, i.e., crisis intervention, emergency services, children's preventive mental health programs, and outreach services. In short, the Time One means of the mental health delivery system as a whole were simply inadequate for responding to disaster demands. Even more importantly, with the absence of a wide range of human service facilities, the system was not flexible enough to accommodate the changing demands through its existing services. Therefore, it had to change its normative framework in part, i.e., develop new means via emergent groups. Possibly if the pre-tornado service network had been diverse enough to include disaster-relevant human service facilities, perhaps only the structures of certain existing organizations would have had to be modified in order to expand their operations to meet the needs of disaster victims.

Hierarchy of Priorities. Other factors important in understanding the mental health system's adaptive capability are the Time One priorities established for various tasks or services in the network. In other words, a particular system may have the latent capability to deliver a multiplicity of diverse services through its preexisting components. However, in its actual day-to-day operations, certain types of services are likely to receive more emphasis than others. To the

extent that this is the case, the overall capability of the mental health system to provide particular types of services is greater than it is to deliver others. While the hierarchical ordering of the service network may be the result of a variety of factors, such as client demands, the preferred ideology of treatment, pressure from various interest groups, etc., the consequences of this are what is important. That is, the establishment of service priorities either formally or informally manifests itself in the allocation of discrepant resources among the service agencies. Although this may be highly functional for the delivery system on a routine basis, a major flux in demands for service may render the Time One priorities irrelevant.

It is necessary to examine more specifically how the pre-disaster service priorities of the Greene County system affected its adaptive capability. Since our previous discussion has implicitly dealt with this, it will be sufficient here to emphasize only those factors which were directly related to the system's disaster response. A good indicator of service priorities is the amount of resources, i.e., personnel, materials, funding, etc., routinely invested in the various service programs.

For example, utilizing financial resources as a measure, the data reveal that at the time of the tornado at least 50 percent of the total resources of the delivery system were allotted to one agency -- the Guidance Center. Of the remaining half of the financial resources, approximately 20 percent of this was allocated to Encounter. Using this indicator, an overall picture of the service priorities of the mental health system prior to the disaster can be gleaned. It is fairly evident that the delivery system was geared mostly toward providing individual or group psychotherapy, which is performed in the clinic rather than in the community, with an emphasis on the treatment of psychopathology rather than on prevention. In short, the system was predominated by a more traditional medical model of treatment, rather than a community mental health or human services strategy. To a considerable extent this was implicit rather than explicit, but if what is valued can be measured by the proportionate amount of resources used to reach certain ends, then it is clear where the priorities were when the tornado hit Xenia, irrespective of what future plans may have had as a goal.

Thus, to the extent that this was the overall service priority in Time One, the capability of the system to deliver more diverse human social services in Time Two was reduced. Furthermore, due to the lesser amount of resources, i.e., personnel, materials, funding, etc., invested in the social service programs, the adaptive capability of those agencies with such services was relatively limited. In fact, the Crisis Center, the one agency which most effectively responded in the emergency period to the flux in demands, was able to do this in part because it had a corps of 25 trained unpaid volunteers. This fact served to bolster its standby capability to respond to the increased demands for certain kinds of services produced by the disaster.

The Time One priorities of the mental health delivery system in the Xenia area affected its capability to cope with the disaster. To the extent that the system was predominated as it was by more traditional services geared to the medical model of treatment, rather than human service facilities, it was less flexible in dealing with the particular needs and demands created by the disaster. Coupled with the relatively narrow range of means available, the slowness and unevenness of the system response is partly explainable.

Prevailing Assumptions. The third major normative aspect which affected the mental health system's capability to adapt to the suddenly changed social environment was the nature of the prevailing assumptions or beliefs. Prevailing assumptions refer to the kinds of beliefs that either implicitly or explicitly guide the services provided by various components of a system. There may be general beliefs that there is a need for a highly specialized service network, one in which services are directed to specific mental health needs (such as drug abuse) or particular target populations (such as the aged). Conversely, it may be assumed, as it is in the community mental health ideology, that it is better to have a less specialized set of services. The system could be viewed as being best if it offered generalized services (such as crisis intervention, outpatient care, emergency services, etc.) to diffuse and less identifiable populations. A key assumption made has to do with the degree of task specialization assumed.

In general, the degree of task specialization assumed affects the adaptive capability of a delivery system in two ways. First of all, to the extent that the majority of a system's services are highly specialized, i.e., geared to particular mental health needs or specific target populations, changes in the demands for services would tend to necessitate an adaptation in its tasks or services by existing agencies or the generation of new groups. For example, if a system's only crisis intervention service is operated in conjunction with a drug program, then the demand for crisis intervention by other target populations would require either broadening the drug program focus or setting up a different crisis agency. In other words, since a highly specialized service network is one having services which are more narrowly focused, the system's ability to adapt to different demands through its preexisting tasks or services is severely restricted.

Secondly, while a high degree of service specialization by various organizations may enhance their expertise along some lines, it can also lead to a lack of flexibility in the system. That is, specialized knowledge, treatment strategies, and other technical skills utilized in performing concentrated services may be inappropriate in dealing with other client problems. For example, it would be extremely difficult for an outpatient service which specializes in individual or group psychotherapy to transform itself quickly into an outreach human service or crisis intervention facility. In general, the greater the degree of task specialization manifested by the organizations in a particular delivery system, the less capable the system is of altering its tasks or services

through its existing organizational pattern. Thus, it is probable that when new services are demanded, the primary mode of adaptation will be that of establishing new and different groups rather than modifying the tasks of existing ones.

We can see both of these factors operative in Time Two in Xenia because of the Time One task specialization of the Greene County mental health system. In Chapter III we pointed out that most of the service agencies were highly specialized, relatively speaking. That is, their tasks were either geared to specific target populations or were centered around particular intervention techniques or treatment modalities. It is not surprising that the Crisis Center, the one existing agency which did modify its services in response to the tornado, was earlier described as much less specialized than others in the local system. On a routine basis it employed a myriad of intervention strategies and offered its services to a far broader population than its ostensible target category, that is, drug users. Its day-to-day activities thus were relatively adaptable to the demands of Time Two. On the other hand, the Guidance Center, which was a relatively highly specialized outpatient agency, found it extremely difficult to adapt its services to the needs of disaster victims. For the most part, it was boxed in by its pre-disaster tasks. In fact, some of the lack of flexibility showed up even in the kind of physical facilities that were discussed as possibly being used by the Center in place of its destroyed building. A staff member reported that:

One of the ideas we had about serving victims at first was to get a trailer and use the trailer as a traveling office. Maybe even doing not just one-to-one interviews, but maybe even doing groups in the trailer. We would not in that way be just barging into someone's house and invading their privacy...We thought about getting a trailer even big enough to house 16 offices.

Most other organizations in the local mental health system tended also to be relatively task specialized. On the whole, the degree of task specialization, which was otherwise assumed acceptable, in the local mental health system served to decrease its overall capability to respond to the changes produced by the tornado.

Summarizing, these three normative dimensions, i.e., the diversity of means, the hierarchy of priorities and some prevailing assumptions influenced the capability of the mental health system to respond to the disaster. Generally, our analysis indicates that the Time One normative framework of the delivery system set limits of the capability of the existing agencies to modify their tasks or services to the altered demands brought forth by the tornado event. Therefore, the internal factors discussed in part account for the slowness of adaptation of most of the existing contract agencies, and the generation of new groups delivering services.

Thus far we have shown that the Time One normative framework and social structure of the delivery system had a significant impact on its adaptive capability. However, it is also important to look at certain trends existing prior to the disaster which also influenced the system's response. We turn to an examination of this factor now.

Dynamic Aspects. Systems are not static; they are always in the process of changing at varying degrees of speed. Thus, all systems have somewhat different careers. Even more important, at any given point in time, there are certain existing trends.

In Chapter III, the historical development of the Greene County mental health delivery system was described, and it was suggested that certain aspects of that context were reflected in the characteristics of the behavior of the delivery system at the time of the tornado. For example, the fact that the overall community service plan tended to be built around existing facilities or agencies, rather than vice versa, is a result of the somewhat haphazard manner in which service agencies were initially established in the catchment area. Also, the changing authority structure produced by the passage of the Community Mental Health and Retardation Act set the stage for conflict between the newly established 648 Board and preexisting agencies. A final example of a contextual precondition which had an impact on the functioning of the mental health system was the rapid expansion of the administrative staff of the 648 Board in that this allowed for a concomitant increase in the centralization of authority within the system.

Certainly all of these factors and others were reflected in the Time One organization and functioning of the mental health delivery system. However, the most significant historical event in terms of its overall impact on the system was the passage of the mental health levy in 1973. As a result of this, a number of major normative and structural changes were in process literally at the very hour that the tornado struck. There were two major factors associated with these changes which served as preconditions for the type of response made by the local system to the disaster.

The first is the fact that the basic ideology of treatment guiding the development of the new community plan, which was to be instituted with the acquired levy monies, was that of community mental health. That is, the delivery system was moving more and more toward the comprehensive human or social service approach and further away from the medical model of service delivery.

A comment by a person associated with the 648 Board and staff well illustrates the changing orientation.

My thesis about mental health is that it has to be a sort of preventative thing. It's going to have to work with groups who have problems, rather than waiting in an office with a long white robe on. I think there was an indication at a board meeting even before the tornado that the board

should get into the area of social action. I think a mental health board has to point out community inadequacies. I guess it would be called social engineering. Our board is changing and it's now not heavily dominated by medical people any more. So in general they tend to be more favorable toward the community approach. And the clinical approach to mental health, which we have long contended with, I guess you could say is "about as dead as last week's fish." Of course, you can always argue on the basis of expenditures too, if you can justify getting the most services for a dollar. And if you go for the clinical approach, well then you are going to spend an awful lot of money and see relatively few people. We could spend \$300,000 at the Guidance Center and maybe not see 5000 people a year.

The fact that the new delivery system was planned to exhibit a high degree of adherence to the community mental health concept was bound to have an effect on the specific types of services developed in response to the disaster. The 648 Board was aware that the service network manifested its greatest weaknesses in its lack of social service facilities. Thus, the stage was set for the creation of these types of service programs in response to the needs and demands created by the disaster.

Secondly, the delivery system which was being planned implied a major reorganization of the prevailing one. Subsequently, at the time of the tornado, the existing contract agencies were operating in an amorphous cloud of uncertainty about what the developing plan portended regarding their futures. Whether the perception was a correct one or not, many of the contract agencies thought they were being subject to unusual scrutiny. As one mental health professional said:

All of the contract agencies have problems with the 648 Board, except maybe Senior Citizens. We all have the same problems of just finding it difficult to get along with the staff and feeling nonsupport from them. And we all have the feeling that 648 is out to get us in any way they can. The general pattern is that we all seem to rotate on the hot seat, you know. One time it is Encounter, another the Guidance Center, and a few weeks later the Crisis Center.

As a result of this uneasiness when the tornado hit, there was a situation which somewhat encouraged the various mental health groups to take some kind of action. Given the unclear future, a failure to respond in some way to the disaster could be perceived as jeopardizing an agency's position in the new delivery system, and perhaps even raise questions about the need of its being. Of course, this is not to imply that the agencies were totally unconcerned about the needs of disaster victims, nor that they acted only in terms of their own self-interest. As a matter of fact, as already stressed, it is evident that the primary impetus for the majority of the disaster activities of the mental health system was not self-generated, but rather came from the outside.

Nevertheless, it is clear that there was not a single mental health organization, no matter how irrelevant its services were to the needs of disaster victims, which did not at least attempt to respond in some fashion, if only briefly. The feeling that actions should be taken was in the conscious thinking of many key agency officials. The following statement, made by a mental health professional a few months later, captures well the type of pressure felt among the organizations.

I could have told you from the start that there wasn't any need for the services of my agency right after the disaster. But if we didn't do anything at all, it looked like we were unconcerned about the problems that the disaster victims were experiencing...especially if we refused to accept the offers of additional funds.

Of course, as we have already indicated, most agencies in the 648 Xenia system ended up providing little by way of disaster-related services. This is because the self-conscious organizational pressure to do something was partly neutralized by two other aspects. Some agencies simply were blind to any meaningful mental health service they could provide to disaster victims as such. They could not think of any. Still others, while projecting the need for certain kinds of new services, could not see how their own organizations could possibly change enough to provide these services. A contract agency staff member very aptly described many of the services that eventually did come to be provided, but indicated she could not see how her own organization could possibly take on such tasks.

After the disaster I thought some other programs needed to be set up which might provide some loosely defined mental health services to people who might be experiencing normal emotional stress, but to offer it in such a way as it's not defined, as mental health help to emotionally disturbed people or something of this nature. But it would be reaching out to people, rather than waiting for them to make contact for the service. It would be providing all kinds of things, like helping them find housing, helping them move, helping them locate other types of assistance, seeing that these people were referred to the right agencies...We would have had to have changed our total operations, so we just couldn't offer that kind of an effort.

Additionally, other organizations saw that the more explicit offering of their traditional services would symbolize their interest in helping people rebound from the tornado.

However, it is clear that in a few cases some agencies went considerably out of their way to attempt to respond in Time Two; it was thought that a failure to do so might be perceived as implying a lack of interest, and thus making the agency vulnerable in the 648 Board plans for the future. As one professional mental health worker observed:

Maybe a lot of things that were underneath, that were below the surface in relationships of agencies to the board, really were brought out by the tornado. There were some agencies that were trying to justify their programs and perhaps their existence in their budget requests, and when the tornado came, this was an opportunity for them to request additional funds. At times you felt that perhaps they were trying to make the most of the situation for their benefit.

Thus, trends in the mental health system, from the context of the evolving past, acted as preconditions for certain aspects of the disaster response. Once the idea that the mental health system should get involved in disaster efforts became explicit, the stage was set for some competitive service delivery so that the respective agencies could increase their saliency and legitimacy both in the community and in the eyes of the 648 Board. The perception involved may not have been an altogether inaccurate one. It is perhaps not amiss to note that in the very bitter conflict swirling around the community mental health system a year after the tornado, parties to the dispute did allude back to their actions -- or lack of actions by others -- in the wake of the disaster.

To summarize, thus far it has been shown that three basic internal preconditions affected the disaster response of the mental health system. First of all, the response was clearly dependent on Time One structural characteristics of the delivery system, i.e., the location of authority and the degree of differentiation and integration manifested by the system. In effect, these aspects of the structure acted as a constraint which made it difficult for existing mental health organizations to make major adaptations in their services in order to cope with the disaster. Secondly, the normative framework of the system also affected its emergency capability. Three characteristics of these preconditions were examined, i.e., the diversity of means, the degree of task specialization, and the priorities established for the various service programs. We found that these aspects of the ongoing service network served to reduce the range of actions available to mental health organizations in responding to the disaster. This subsequently acted as a barrier to effective service delivery in the disaster context, since for the most part the system's Time One programs did not coincide with the human services which were demanded following the tornado.

Finally, the third internal or endogenous factor which influenced the delivery response was the trend from the historical context in which the system developed. On the one hand, the movement toward a community services approach that was in progress at the time of the tornado had a positive impact by encouraging the development of new disaster-relevant programs. However, on the other hand, the historical context also acted as an incentive for keen competition among the established

mental health organizations, thereby reducing the overall capability of the system to muster even those resources which it had available to it. Thus, in conclusion, since the Time One features of the mental health system made it difficult for the system to adjust well after the tornado, a situation was created which was conducive to the emergence of new organizations which could respond and engage in new tasks and thereby deliver rather different kinds of services to a more varied and greater number of clients.

Exogenous Preconditions

Thus far, we have discussed the preconditions which were internal to the formal local mental health delivery system in the Xenia area. However, systems do not function in isolation. They are embedded in much larger social settings which provide exogenous or external factors that affect the adaptive potentials of the system. This was, of course, also the case in Xenia. We will examine the two exogenous sets of preconditions that influenced the mental health system's disaster response. These have to do with the system's relationship to the larger community as well as extra-community interactions. In other words, we have to see how the Time One relationships of the local mental health system to other systems and groups in Xenia affected the system response in Time Two. Similarly, we have to look at how the delivery of mental health services after the disaster was influenced by the pre-disaster interactions between the local mental health system and groups and organizations from outside the Xenia area. However, while we analyze both the effects of the larger Xenia community as well as the social environment outside of the area, we do not distinctively separate in our exposition the two extra-mental health system sets of preconditions.

There are several ways in which exogenous preconditions could be examined. We have chosen to make the analysis along four dimensions. It has frequently been observed that organizations do not exist in a vacuum but have to carry out their functions within the constraints and contingencies presented by other organizations, groups and individuals -- all of which make up the environment of the organization. This organizational environment has been conceptualized as involving four elements: suppliers of resources, regulatory agencies, users of the organization's product, and competing groups (Dill, 1958). This analytical device generated for the study of production organizations can also be extended to the system level.

We will look at the relationship of the local mental health delivery system in Xenia to the larger community and to the extra-community setting in those terms. Suppliers may provide such resources as personnel and information as well as funding and materials. Regulatory groups, on the other hand, possess some amount of power, authority or influence over the system in question (for distinctions between the concepts of power and authority at the system level, see Buckley, 1967:186-207). Users in this particular analysis are not purchasers of products, but the consumer of services. And competitors are those other groupings which have an interest in the same resources, services and users as the focal system. However, the key question is how all

of these relationships and interactions affected the delivery of mental health services, especially by the local system, in the aftermath of the Xenia tornado. The effect could, of course, be manifested in unrealized potentials or untaken opportunities as well as in the things that occurred.

Supplier of Resources. The term resources is used in this analysis to refer to all external materials, money, information and personnel which are fed into a system and which help in generating such various services as the system provides. In a basic sense, of course, the Greene County mental health delivery system obtained all of the indicated resources from outside of its own system, and many of them came from the Xenia area. Obviously the staff and workers in different parts of the system, for instance, came from the population in the local area. However, we are interested only in those Time One aspects that had some notable consequences or implications for the delivery of disaster-relevant mental health services in the aftermath of the tornado. In the particular case of Xenia only the matter of potential personnel from outside the system was perhaps that important.

As already indicated in Chapter I, Xenia is part of the larger metropolitan area of Dayton. Within a radius of 15-20 miles or so, there are a number of diverse mental health facilities and personnel -- in fact, far more numerous than in the Xenia area. The proximity of these resources might appear to have offered Xenia a valuable emergency source of personnel, among other things.

However, despite the fact that the two cities are contiguous and also in the same state mental health district, the ties and links between the two 648 mental health systems were rather minimal in Time One. In effect, most of the limited interaction which did occur was indirect and came through either the district manager's office of the State Division of Mental Health or through the Tri-County Mental Health Association. Consistent with the pre-disaster pattern, it was through these two channels that the outside resources were mobilized following the tornado. This also meant that there were no really operative means or procedures for exchanging any resources.

For example, almost immediately after the impact, planning was underway among the Dayton groups to dispatch a large number of professional mental health workers to assist in the disaster-stricken community. However, since these volunteers were not a regular part of the capability normally available to the local mental health system, in order for them to be effectively utilized their activities had to be coordinated and supervised by the local mental health system. This simply added to the demands being placed on the local system, thereby further reducing its capability to organize an effective response to the disaster. In addition, in spite of the motives behind the actions of these volunteers, they were largely viewed as "outsiders" by members of the local community. As one Xenian observed:

Dayton was organizing everything in Xenia. They had moved in. The Dayton agencies had moved in to organize mental

health and social services. Its ministers had moved in too. All of the ministers in Dayton had called a meeting to deal with the disaster situation in Xenia, and they, incidentally, invited Xenia ministers.

This, in turn, engendered hostility rather than cooperation among those involved, which was itself a barrier to effective service delivery during the immediate post-impact period. Therefore, while these external resources could conceivably have increased the overall capability of the Greene County mental health system to respond to the crisis, the result was largely the opposite, i.e., to reduce its capability to respond. In effect, this element of the system's environment had such a significant impact on the mental health system's initial response to the disaster that it led to a major adaptation in the entire local delivery system for a short period of time through the efforts surrounding the Three Stage Plan.

The money or funding for the local mental health delivery system in Time One came primarily from the state. But we shall consider the implications of this under "regulatory agencies" for the state also had certain formal supervisory responsibilities with regard to any local mental health system in Ohio. In addition, the state, through the Division of Mental Health, was of course a source of information about mental health matters, particularly planning, to the Greene County system, especially the 648 staff. For some staff people, this Time One relationship had been a pleasant one. As a staff member said in the aftermath of the tornado, "One of the people who came down from the state was pretty helpful to us. A lot of our board members had known him before, and two or three board members think he is the brightest thing 'up there,' (i.e., at the state level)." Thus, there was some expectation of receiving advice and information from state sources, and a greater willingness in Time Two to listen among some local mental health personnel than otherwise might have been the case.

The Greene County mental health delivery system, however, also had other funding sources in Time One since 25 percent of funds had to be locally generated to match the 75 percent state contribution. But this one quarter of the funding did not come from any one source. Part of it was derived from United Way, part from the United Health Foundation of Dayton, and at times and somewhat more sporadically from the county commissioners, and even occasionally from local groups and organizations. In general, the diversity of sources meant the local mental health system had both little obligation to any given group and also seemed to imply that if funds were necessary they could be obtained in one way or another. In general, this kind of Time One relationship of the system to local funding reinforced the notion of autonomy and independent action in Time Two.

Regulatory Agencies. The regulatory agencies of the Greene County mental health delivery system consisted mainly of certain district, state

and national organizations involved in mental health, as well as the local county commissioners. The latter's influence rested on the fact that they appointed two-thirds of the 648 Board, as noted earlier. But in Time One, despite this authority, the commissioners made no attempt to wield other power or influence insofar as the 648 system was concerned, effectively allowing it full control at the local level over its own operations. Similarly, while the state had developed a district arrangement under which a number of 648 systems were clustered, at the time of the tornado the arrangement was so new that for all practical purposes little authority, power or influence was actually wielded on the Greene County local community mental health system. In Time One, the local system was rather independent of the district office under which it was assigned. Thus, local and district supervision and regulation was miniscule in Time One clearly setting the expectation that the Greene County system need not concern itself with those elements in Time Two.

The relationship of the local system with the state was somewhat different. For one, the state in Time One had varying degrees of authority, power and influence. All these affected the mental health response in Time Two. The state of Ohio did have some authority in the situation for it was under state law that the 648 system was set up. A state agency appointed one-third of the members of the 648 Board, and the state provided three-quarters of the funds for the operating expenditures of the service programs. Furthermore, because of all these matters, the state had the right if not the obligation to audit fund expenditures, require certain kinds of reports, mandate minimum standards for programs and personnel, approve plans, etc. However, in general in Time One, this authority appears to have been exercised fairly lightly. The Greene County mental health delivery system, despite the state's authority to coordinate and supervise, was quite autonomous and the notion of local control was very pervasive. This encouraged the local system in Time Two to continue to operate rather freely (e.g., in failing to clearly account for disaster funding expenditures) and to feel that suggestions and urgings to get involved in the disaster response could be resisted. There was a carry-over of the attitude from Time One that the state would not exercise its full authority in Time Two. This was a correct prediction.

On the other hand, there seemed to be a somewhat implicit and uneasy view among local personnel and agencies that the state, whether it exercised its authority or not, did have ultimate power. This was hardly an unrealistic idea. The total 648 system was certainly not the result of local community initiative. In a sense, therefore, system death as well as birth was part of the residual power of the state government. Less drastically, the state even in Time One was seen as having the power to institute changes which could affect the 648 system. In fact, just prior to the tornado, the institution of official service districts by the state was seen as potentially involving the loss of some local system autonomy. While the ostensible purpose of setting up districts was a further decentralization of state government, in actual fact it also resulted in setting up intermediate social entities between the local and state levels which were less subject to political and other kinds of pressures that normally would be operative at the state level. This and other state activities in Time One left the seldom openly-voiced impression that the power of the state could

not be ignored. This impression from Time One carried over into Time two and was one of the factors that led the 648 staff to go along reluctantly with the urgings of district and state mental health officials that an organized effort be launched to deliver relevant services to victims of the tornado, and that culminated in the Three Stage Plan.

Apart from authority and power, in a relationship between systems or organizations there can also be influence. There was also some of this in the relationship between the Greene County mental health delivery system and the State Department of Mental Health. The state in Time One had strongly encouraged the local system to develop its new mental health delivery plan and had conveyed the impression that it considered the Greene County system as one of the more innovative ones in the whole state of Ohio. Because local personnel believed that the state had been very favorable to the 648 Board and staff in Time One and strongly supported the new plan, they found it a little difficult to believe that the state really wanted the local system in Time Two to develop disaster-related programs that might appear almost tangential to the master plan. (Of course, as we shall indicate later, this was not what state representatives perceived as what they were advocating -- in fact, they saw themselves urging the integration of disaster-relevant programs into the existing and developing mental health delivery service system.)

Federal agencies in Time One had no authority or power over the local mental health delivery system. However, this does not mean that they did not have some influence. In fact, as indicated in Chapter III, the National Institute of Mental Health (NIMH) had become increasingly involved in disaster responses starting in 1971. It advocated the idea of delivering mental health services en masse following a disaster. But its influence in the Xenia disaster was going to be even more important, in part because of something that went on during Time One.

From the very beginning of the trend of federal involvement in the previous decade, NIMH had played a central role in disaster-related mental health activities by helping to fund the mass delivery efforts and programs referred to above, sponsoring conferences on the mental health needs of disaster areas (Parad, Resnick and Parad, 1974), and providing consultation to local mental health officials. However, federal involvement in this area was largely informal throughout this early period. Then on May 22, 1974, as already noted in Chapter III, federal legislation was enacted charging NIMH with the formal responsibility for the delivery of mental health services following a major disaster. Regarding this, the Federal Disaster Relief Act of 1974 states in Section 413:

The President is authorized (through the National Institute of Mental Health) to provide professional counseling services, including financial assistance, to State or local agencies or private mental health organizations to provide such services or training of disaster workers, to victims of major disasters in order to relieve mental health problems caused or aggravated by such major disaster or its aftermath.

Although this law was not actually passed until a month after the Xenia disaster, it nevertheless had a significant impact on what occurred there right after the tornado. The fact is that while NIMH as yet did not know exactly how it would carry out its future disaster responsibilities, it was clear that they would soon be called on to respond in some fashion. Thus, when the tornado occurred in Xenia, it was inevitable that they would take some type of action. In other words, what is being suggested is that the unusually active role played by NIMH in the Xenia disaster was not brought about by the expectation that the mental health needs and problems created by this particular disaster would be more massive or devastating than usual. Rather, it was a function of the responsibilities delegated to that agency under the new law. Therefore, no matter where the next disaster had occurred, it was very likely that NIMH would have become heavily involved. Thus, because the delivery of mental health services to disaster victims had been previously defined by the federal legislation as an immediate and imperative issue, the stage was set for NIMH officials to show up in the Xenia area and to exercise considerable influence in the tornado-relevant activation of the local mental health delivery system and in effecting the kinds of services that were considered and attempted to be implemented.

Users of Services. By users of services we mean the actual or potential clients or "patients" of mental health organizations. For all practical purposes these all came from within the local area. The primary Time One factor relevant to this environmental element might appear to be the extent to which the users require persistent or uninterrupted service. That is, as a result of the severity of their conditions or instability, clients of any service organization are likely to vary in the extent to which they must receive continuous treatment. For instance, patients in a hospital's intensive care ward are placed there because they need uninterrupted care. On the other hand, the clients of a law firm do not possess nearly as immediate a need as hospital patients. Their need perhaps may be as important, but it is not likely to require uninterrupted attention.

It can easily be seen that the greater the requirement for uninterrupted care of clients in normal times, the less the capability of servicing others in emergency situations. For if a patient in a hospital requires continuous attention, the staff devoted to this patient as well as the space and equipment thereby employed are unavailable for use with other patients. Indeed, in emergency situations, hospitals often discharge such patients as they can in order to increase their capability to meet expected demands (Quarantelli, 1970).

The clients of the mental health agencies in Xenia did not generally require uninterrupted care. As a result, their treatment or therapy could have been temporarily discontinued without serious dysfunctional results. A suspension of this kind could, then, be seen as a potential means of increasing the emergency capability of the Greene County mental health system.

In fact, as already indicated, a number of the contract agencies of the system did not operate at all in the short run and it took a relatively long period of time before many regained their Time One level of regular activity. In a certain sense, some capabilities could be thought of as having become available, particularly in terms of personnel and in some instances of physical facilities. In a few cases, such as at the Guidance Center, treatment of a number of clients was actually discontinued temporarily. A few of the clients even telephoned the Center to cancel their appointments, explaining that they felt it would be unfair to use up the Guidance Center's time, given the emergency that existed and due to the fact that there were probably victims around with far more serious problems than they had. Such occurrences, in principle, did increase the capability of the local mental health system.

However, while Time One users did not press agencies for continuation of services in Time Two, most of the mental health agencies did assign highest priority to their previous clients. There was a general reluctance certainly to set aside the providing of usual services to regular users and substituting emergency activities for disaster victims as such. As one mental health professional said: "I couldn't take on any additional cases after the tornado, so I personally did not see even any of these new people who were referred to us. But I did try to keep up with my original caseload." Therefore, the potential increase in capability that became or was available to the local mental health delivery system, because uninterrupted care of clients was not totally necessary, was not really utilized except in isolated and very short run incidents.

Competitors. Competitors of the Greene County mental health delivery system were any group, agency or organization that had an interest in the same resources, services and/or clients as the focal system, i.e., the local mental health system. As noted several times already, such competitors are best exemplified by the traditional social welfare organizations in the area. In the same way as some of the agencies more specifically oriented towards mental health were able to deliver services usually associated with social welfare groups (e.g., legal referral, transportation, recreational activities, etc.), the social service agencies likewise were able to deliver more than occasionally in Time One what could be broadly defined as mental health services. We have documented this point a number of times already.

However, it was not any direct competition between these two parties that was important in affecting the Time Two response; what was more important, instead, was the relative abundance or "richness" (Stinchcombe, 1965), of this element of the environment. Prior to the tornado the different groups simply proceeded to do their work without any great consciousness that they were perhaps competing with one another, either as individual organizations or as agencies representative of different kinds of delivery systems. But the more crucial matter is whether in Time One there was a "richness" or a "poverty" of this environmental factor.

On the one hand, if the pre-disaster capability of a community to deliver social welfare services is very low, this in itself can set the stage for the emergence of new groups to carry out this function. This was, in fact, the type of situation which existed in Greene County at the time of the tornado. In the sense indicated, it was an organizationally poor area insofar as social services were concerned. Thus, the emergence of Interfaith and the role which it performed in disaster relief efforts was in part an attempt to fill the gaps in social welfare services which existed in Greene County prior to the disaster. Moreover, it could be argued that the very fact that most of the tornado-related mental health programs ultimately entailed the provision of basic social services was predicated on an overall "poverty" of social service organizations in the community prior to the disaster. Consequently, the mental health system stepped in to compensate for this deficiency in services. But this had to be accomplished largely through the creation of new groups, such as Interfaith and Disaster Follow-Up, since the leap was too difficult for most of the traditional mental health organizations to make.

On the other hand, there is another effect which the community context can have on a mental health system's response to a disaster. If a locality has a rich array of quasi-mental health and social service groups prior to the disaster, this can serve as a standby capacity to bolster the efforts of the mental health delivery system in responding to crisis situations. Ideally, this type of community context would probably be less conducive to the emergence of new organizations or the radical alteration of preexisting ones. While this was largely not the case in Xenia, there was one large grouping outside of the mental health system available after the tornado disaster. This group was composed of the area churches. There had been a Time One link between the churches, which became the basis of a response in Time Two. This factor stands out vividly in the Xenia situation because of the significant contributions made by the activities of the Interfaith Council. By stepping into the breach, Interfaith, in providing both preventive mental health efforts as well as social services to disaster victims, lessened considerably the load of all other service organizations. It provided a substantial delivery capability for the increased and new needs generated by the disaster. The Time One links of the religious institutions in the area, while not the only factor, did set the stage for the emergence of a new group that added significantly to the services that were eventually provided to victims.

In summary, the various elements of the system environment provided important pre-disaster factors affecting the mental health response to the Xenia tornado. Outside resources, potentially increasing the emergency capability of the local system, actually served to create problems and special demands for the system because of a lack of Time One coordination. Despite the fact that services could have been interrupted to regular users of services, this potential increase in capability of the system was also not taken advantage of to any great extent because of the priority given to Time One clients. On the other hand, this same system, while having a high degree of autonomy, was subjected, because of Time One factors, to considerable pressure to attempt an organized mental health effort after the tornado. Fortunately for the

local mental health delivery system, this pressure and the Time One "poverty" of social services in the Xenia area were actually handled by the emergence of a group which had a base in the community before the tornado struck, that is, Interfaith.

Postconditions

As mentioned earlier, there is often a tendency to underestimate the effects of contextual Time One conditions on disaster responses. However, from the just concluded discussion we hope to have made it clear that such factors did play a prominent role in the mental health system response to the Xenia tornado. To say this is not to minimize the impact of postconditions, for, as we will now show, they also have to be taken into account to understand fully the processes and activities involved in the delivery of mental health services in Time Two.

Postconditions may be influential in two ways. They may reinforce the preconditions, or they may operate to negate or neutralize them. We shall see that in the Xenia situation they primarily served in the former capacity, adding more weight to the carry-over conditions from Time One. There were a few instances where postconditions influenced the system response to be different from that in which it was being directed by pre-disaster conditions.

As in the case of preconditions, we will again differentiate the factors as to whether they were primarily internal or endogenous to the Greene County system or if they impinged on it from the outside and were exogenous. Although the distinction is a useful one, it is important to recognize that both conditions interact with one another, especially in such a fluid situation as a disaster, making their concrete specification sometimes difficult. We will look at the internal factors first, before examining the external or environmental conditions. Both can affect the capability of a system to respond, thus affecting its adaptability.

Endogenous Postconditions

In this section we look at the internal post-impact factors which influenced the delivery of mental health services after the tornado impact. As in the instance of endogenous preconditions, there were three factors that affected the system's ability to make adaptations. These were aspects of the structural arrangements, the normative frameworks and the dynamics of the system. Since the general ways in which these conditions may have affected the mental health delivery system response in the Xenia tornado were discussed at length when they were first introduced in dealing with endogenous preconditions, they will not be re-discussed here. But we will attempt to show in what particular ways they influenced the Time Two response.

Structural Aspects. As noted before, structures of all systems may be distinguished as to the extent to which they are formally subdivided, their authority centralized, and their subparts integrated. In Time Two, the Greene County mental health delivery system was even more differentiated and less integrated than in Time One, but its centralization tendencies went off in several different directions. We shall attempt to show how these affected the adaptability of the system in providing services after the disaster.

Pattern of Structural Differentiation. As said earlier, in Time One there was a high degree of structural differentiation in the Greene County mental health delivery system. Overall, the Time Two system was even more significantly differentiated. To the cluster of established organizations were added, after the tornado, the two emergent groups -- Interfaith and Disaster Follow-Up, and later, from disaster-allocated funds, two more programs -- Emergency Support Services and the Children's Program. In this respect, there was a sharper division of labor among the contract agencies in the system than ever before.

When discussing the Time One structural differentiation earlier, we noted that everything else being equal, such a condition should make for greater adaptability of a system. Besides the reasons advanced earlier, there are particular aspects of a stress situation that should maximize the adaptive quality of high differentiation. For one, a stress situation such as a disaster is likely to be characterized by incomplete knowledge of what might be the best courses of action to follow. Greater differentiation promises a better chance that such knowledge will become available. In other words, the more there are different subunits in a system, the greater the probability that one or more of them will have the appropriate knowledge for dealing with whatever problems face the system.

In addition, a more highly differentiated system is more likely to spawn greater innovation. The greater the heterogeneity of the basic units of a system, the more probable that new ways of doing things might be attempted, whether this be the writing of popular songs (Peterson and Berger, 1975) or the delivery of services.

Both features, different knowledges and innovations, are associated with structural differentiation, and both make for greater adaptability of a system. This is what developed in Time Two in Xenia. The two emergent groups in the system were able to bring to bear different knowledges and different procedures for delivering mental health services. The increased structural differentiation of the local mental health system supported the innovation of actively seeking clients and the bringing to bear of the knowledge that prevention was more important than treatment, two features distinctive of the two emergent groups.

But while the local mental health system made the indicated gains by its greater differentiation, it was at a cost. The cost, as suggested earlier, was that coordination of all activities became almost impossible. If a system develops a pattern of great structural differentiation,

the heterogeneity that is created usually gets beyond the span of effective organizational coordination and control.

To a certain extent this was the situation that developed in Xenia. Lawrence and Lorsch (1969) point out that increased differentiation involves more than just an increase in specific functional areas. Each subunit or component of a system is likely to habituate itself to certain ways of doing things and approaching problems, to familiarize itself with different sets of "facts" and clients, to interact with varying elements of the system environment, etc. Parts of organizations in systems may therefore come to operate in rather different subworlds even though they are elements in the same system. Interfaith is an excellent illustration of this in the Xenia situation. To have coordinated its activities with a colleague agency, such as the Guidance Center, would have been a very difficult undertaking. Conglomerates may function very well as overall entities even though some of the subcomponents may live, act and respond in rather different social worlds.

Thus, the differentiation which occurred in the local mental health system in Time Two had its costs and disadvantages. But it almost certainly allowed the system to react, to provide services of a new kind after the disaster. The evidence is fairly clear that the established organizations in the system could not have changed enough to meet the new needs of disaster victims. If the system was to respond at all, even just partly, it had to develop new groups with different tasks, which is another way of saying structural differentiation had to occur in the system.

All of this is perhaps recognizable in the remarks of a worker in one of the traditional established contract agencies who said:

The two volunteer coordinators (i.e., Interfaith and Disaster Follow-Up) were doing a different kind of thing than any of the rest of us would have conceived probably of doing. Interfaith was broad-based in its approach and it had contacts with many people, many more than the agencies in our mental health system did. And our mental health system really didn't see anybody. Our clinical approach just didn't work. And the Follow-Up Group was an organization that didn't have an approach. A trip just to see people. But it and Interfaith seem to have done more than what our other agencies could do with their own approaches.

Location and Distribution of Authority. Earlier we had noted that in Time One the Greene County mental health system had a high degree of nominal centralization, but that in actual fact the contract agencies had a fair degree of autonomy. This pattern initially carried over into Time Two. However, after the tornado there also occurred a fairly quick movement toward actual greater centralization at least of the established organizations. This made such groups even less adaptable

to the demands of the disaster. It meant therefore that the only parts of the system that had the necessary flexibility to adjust to the new demands and needs of the Time Two situation were the emergent groups. And they did respond, being left generally outside of the evergrowing centralization of authority in the overall local delivery system.

In the immediate aftermath of the tornado, as already noted, the 648 Board and staff exercised almost no authority, nominal or actual. The system for a while had no leadership, except that which was operationally imposed on it by pressure from outside organizations. In this void, one or two of the contract agencies considered the possibility of attempting the initiation of new services. This was particularly true with respect to the Guidance Center which made motions toward developing some kind of outreach services for disaster victims.

However, for reasons discussed earlier, the initial tentative moves made by the Guidance Center never fully developed. More important, by the end of May, the 648 Board began to turn its authority over the agencies from a nominal to an actual status. A general tightening up of review processes and a closer supervision of organizational activities were instituted. In fact, immediate post-disaster actions by some of the contract agencies were used to call them to account. Thus, one Guidance Center staff member reported:

At first the 648 staff said that it was alright to spend money for tornado-related things and that we could go ahead and spend whatever we wanted, that there was an abundance of money for this. They even said to forget about the paperwork if we needed to hire additional staff. But then later on in April a letter was sent out by the staff making it clear that the jobs were not permanent, that they would be continued on a 30-day basis only. Then I began to perceive that there were going to be great administrative hassles in even paying the person I had hired when this 30-day rule was presented to me about all these disaster employees. I felt responsible for her being paid, but I had no guarantee in writing as to where the funds were going to come from. All of these administrative questions that no one had thought of in the beginning were suddenly a hassle. The 648 staff by this time was deciding certain questions like whether we would pay these people hospitalization, or whether we should deduct social security or workmen's compensation. These were all administrative hassles that no one thought of at first, but which I could have done without at the time. And since I had no hidden "pot" of tornado money, there was nothing our agency could do about these problems.

The definite locating of authority in the hands of the 648 Board and staff was further reinforced by the power they were able to bring

to bear because of its control of resources. In Time One, the contract agencies had been getting more and more of their funding through the 648 Board. The passed, although not yet implemented, mental health levy as well as the new master mental health delivery plan centralized even more the source of funding for the operations of the system. The funds were increasingly coming from one source. As Thompson (1967:34) observes, when an organization relies too heavily on any one source of resource supply, the organization's autonomy, or self-determination, is thereby reduced.

We can see this operative in several ways. The contract agencies had to have any new programs as well as renewal of old programs approved by the 648 Board and staff. This in itself, given the negative attitude towards developing specifically disaster-related mental health services and other factors mentioned, almost insured that none of the established organizations were going to become too innovative in generating tornado-related services. But that there was only one major source of funding also meant that the agencies were in competition with one another for the limited funds available. Any idea of a unified front among themselves to push in new directions was effectively neutralized by this factor. The competition among the agencies made cooperation clearly more difficult, whether with groups in or outside of the mental health system. This greater atomization of the local mental health delivery system decreased the effectiveness and interest in interagency meetings which might have served to counter in part the increased authority and power of the central source of funding, the 648 Board.

Thus, the greater centralization of authority in the system undercut the previous autonomy of the contract agencies. One of the consequences was that it discouraged, even if there had been an intention in those directions, the development of new disaster-related services. On the other hand, the attention and effort of the 648 Board and staff to bring the established organizations under greater supervision and control helped allow the almost totally unsupervised activities of the emergent groups. That particular part of the local mental health system ended up with almost complete independence. There were very few restrictions which limited their operations; and they therefore, had all the necessary flexibility to adjust to the changed service demand situation in Time Two. Thus, the adaptative capability of the system was in part reinforced by the Time Two structural authority pattern of the system.

Degree of Integration. We noted in Time One that the Greene County mental health system was weakly integrated. While the community mental health ideology that was partly being implemented in the new mental health delivery plan made for greater contacts and linkages, the high structural differentiation and other factors prevented much integration. The Time Two postconditions reinforced this tendency. There was a temporary coming together of some of the established organizations in the immediate emergency period, but it was a very ephemeral and surface linking of the agencies. The competition for funding which soon developed among the agencies separated the groups even more than they had been in Time One. And the newly emergent groups were, of course as already

stressed a number of times, even less integrated into the system as a whole, in part because the services they delivered expanded the heterogeneous range of services provided by the system. In terms of this structural characteristic of degree of system integration, the lack of networks in Time Two did not maximize the adaptive capability of the system.

Right after the tornado hit, there was probably greater interaction and contact among some of the contract agencies than probably had ever previously occurred in the Greene County delivery system. The Crisis Center and the Guidance Center, for example, not only were in contact with one another by phone, but some of their personnel got together in several informal meetings. On the other hand, it is possible to overstate the nature of the transactions and exchanges that took place between the interacting system components. There was, for instance, very little referral of clients or other exchanges having to do with the direct delivery of mental health services as such. No network for providing clients services developed or for that matter was even attempted to be initiated. Most of the organizational interactions that occurred were about housekeeping and logistic problems; at best, in a few cases there may have been some exchanges about what the agencies might jointly do in the situation. Thus, the links and contacts established by a few contract agencies at the start of Time Two never involved the formation of long-lasting or intensive social bonds between two or more of the traditional organizations.

In fact, far from cooperating with one another, the altered conditions in Time Two set agencies to competing rather than cooperating with one another. While organizational competition or conflict need not preclude close links and integration as can be seen in leagues of professional sports teams, in this case the tying together of the system did not occur. If anything, the Time Two relationship of the contract agencies, once past the emergency period, exhibited or manifested less integration than it had in Time One, when it was very weak. There was nothing in the situation to make the established organizations develop closer ties and links with one another on more than a temporary basis.

The emergent groups, and the other marginal and peripheral organizations delivering mental health services were not even well linked to one another, much less to the larger mental health delivery system. We have noted several times, for example, that Interfaith and the Disaster Follow-Up Group, while they had contact with one another, never really did develop a clear division of labor between them. And there was even less of a service network among the rest of the peripheral agencies involved as well as between them and the two emergent components of the system. As one local mental health professional observed in giving a somewhat global view of what was going on among different agencies:

I think that the outreach groups were doing a good thing.
I just thought there were too many of them and that they
needed to be coordinated. Even at the weekly social service

agency meetings we attended, it seemed at times that groups would find out that they were all doing the same thing. Here was a group over here doing the same kind of thing as someone else, and I just felt that there were too many independent groups. They needed to be better coordinated in terms of referral.

Thus, the lack of integration among the established organizations in the local mental health system and between them and the emergent groups had several effects. To the extent that the emergent groups were not too tightly linked into the local system, they could have the necessary freedom to adjust to the crisis situation. On the other hand, the lack of integration as manifested in a genuine network of services meant that the total potentials of the system were not being used, and in this sense its adaptive capability was not maximized. But the established organizations, because they had not generally modified their traditional operations in Time Two, could have contributed to disaster-related mental health delivery services only if they had been linked into a service network. But such a network did not exist.

To summarize, three internal structural dimensions affected the capability of the local mental health system to adapt in Time Two: these were the pattern of structural differentiation, the location and distribution of authority, and the degree of integration. Generally, the preceding analysis suggests that the Time Two structural features of the delivery system in Xenia freed the emergent groups to provide new and additional capability to meet the changed demands created by the tornado. Therefore, these internal factors in part account for the ability of the emergent groups to act in the way they did and prevented the established organizations from doing much of anything outside of their traditional tendencies in Time Two. It is clear that no major modification by way of service delivery following the disaster could have been undertaken by the older parts of the system.

Normative Aspects. A system's capability of responding to a major disaster is affected by its normative framework including its diversity of means, its hierarchy of priorities and the assumptions made as to acceptable beliefs and views. In Time Two as compared with Time One we found that while the means or procedures used were broadened, disaster-related services were never accorded high priority and it was assumed that traditional activities, for the most part, would meet such mental health needs as disaster victims might have. How these influenced the adaptability of the mental health system in Greene County in delivering services in Time Two will now be discussed.

Diversity of Means. In Time One, the Greene County mental health system could not have been said to have delivered a very wide range of services, although the new plan to be implemented broadened out considerably what eventually was to become available in the area. In Time Two, the system developed new means for providing services. However, the overall effort never did quite succeed in enlarging its scope.

The Three Stage Plan was a complete failure. Similarly, while the emergent groups of the system did extend the range of services available in Time Two, the activities still fell short of what was necessary in the situation, and peripheral organizations of the local system shouldered some of the requirements of disaster victims. In one sense, the unintegrated effort at providing services seemed to rest more on an unrecognized principle of effectiveness rather than of efficiency.

After the tornado hit, the established organizations of the Greene County mental health system could not have provided different services even if they had wanted to and even if other conditions had facilitated a move in that direction. They simply did not have the necessary background, personnel or other resources to develop new programs within the system. A broadening of services either had to come from outside the system or, if from within, by new rather than by the traditional groups. Thus, the initial attempt to broaden services -- albeit as it turned out in a dramatically inappropriate way -- was through the Three Stage Plan. This program did represent an effort to provide a network of services which had not previously existed. But it involved primarily extra-systemic components although nominally supervised and coordinated by the 648 staff. But for reasons already discussed, this attempt to diversify services for disaster victims was all but a total failure.

The second effort to extend the diversity of services provided by the local system was through the two emergent groups, Interfaith and Disaster Follow-Up. The procedures and means used by them, relatively speaking, broadened considerably the services which the system could provide disaster victims. For example, unlike the Three Stage Plan which required the use of professionals since it relied heavily on individual therapy, the emergent group could use nonprofessionals acting primarily as "good neighbors." Also, instead of waiting for clients as the Three Stage Plan envisioned, the emergent groups could and did develop an outreach program. The relatively narrow means initially used by the system was followed by a relative broadening of procedures in an attempt to reach disaster victims.

Compared to what existed in Time One, and what the established organizations were offering in Time Two, the activities of the two emergent components of the local mental health system considerably diversified the means or procedures for delivering services to disaster victims. However, the emergent groups really did not have a service network. They were also only two in number. The needs in the situation, if not the demands which we shall discuss in Chapter VI, went beyond what they could provide. The social service agencies and other marginal and peripheral elements of the local mental health system delivered some of the disaster-related services which the central core of the system, including the emergent parts, could not provide.

The abandonment of the Three Stage Plan was dictated by its almost total ineffectiveness. The program seemed to be reaching practically no one. The later attempts via the emergent groups and others may not have been very efficient given the duplication of activities and gaps

in services that existed, but it was certainly more effective. This is important because there is some evidence that perceived effectiveness in disaster response affects organization and system responses (Brouillette and Quarantelli, 1971:44). It helped lead in the Xenia situation to the system shifting from the medical model of the Three Stage Plan to the more human services model of the outreach efforts by the emergent groups and the peripheral elements of the local delivery system. The lack of diversity of means available to the existing agencies that constituted the core of the local mental health delivery system facilitated the development of delivery efforts that were characterized by effectiveness rather than efficiency.

Hierarchy of Priorities. As mentioned earlier, there was a fairly clear-cut hierarchy of priorities in the mental health system in Time One. These were not as clear or consistent in Time Two. Right after the tornado, there was some value placed on the idea that the mission of a mental health system at a time of crisis was to be responsive. Thus, the effort in the Three Stage Plan indicated some value being placed on the use of resources for delivering specifically disaster-related services. On the other hand, after the failure of that effort, the 648 Board and staff tried to minimize use of resources in setting up a mental health recovery effort. In fact, attention became refocused on future planning. Low priority, as exemplified by lack of commitment of resources, was placed on delivering disaster-related services. The system as a whole in Time Two, despite some wavering, did not assign overall high priority to tasks directly related to the tornado.

When the disaster happened, it did occur to a few of the mental health professionals that the local system had some responsibility to respond in some way to the event. These persons, however, had difficulty in clarifying even to themselves exactly what the role of mental health should be; the mission of the mental health system was to be responsive in a crisis, but exactly what did that imply? This point of view, held by a small minority, never did find much overt expression at the local level. Nevertheless, it probably did underlie the search for a role which eventually partially took the form of providing human services. This general view is expressed in the remarks of one local professional who said:

It just seemed to make sense that there was a lot of help that could be and really needed to be provided to victims by mental health agencies. I had no idea about what was done in other disasters, not until later on when some of the experts came in and told us. But the idea that we could do something to help was just a common sense notion that came I guess from a lot of our own attitudes about what the role of mental health should be in supporting people in situations like this. I guess it just seemed to make sense that we should be doing something to help too. But we didn't really know exactly what that something should be.

Another minority view was that the mental health system had to be responsive because certain psychological reactions were to be anticipated that clearly fell within the legitimate scope of activity of mental health operations. These persons, mostly among the personnel of a few contract agencies, projected that an extreme stress situation such as the tornado event in Xenia was bound to psychologically scar some of the disaster victims. Mental health organizations consequently had some responsibility in responding, although there was considerable uncertainty both about the nature of the expected problem and the appropriate response. As a social worker at one of the local contact agencies said fairly soon after impact:

We anticipated that there would be, if not right away, at least subsequently, some probably disaster-related extraordinary requests for services, but we didn't know at that point how much it would be, or to what degree, or when it would begin. We felt it might begin immediately and then someone, I don't know who, said there's a possibility in a case like this that we won't have much of a response at first. There will be a delayed reaction, which it proved to be the case, I guess. There wasn't a need.

However, the general position of the Greene County mental health delivery system, as explicitly expressed by the 648 staff members and as implied in the inaction of the 648 Board, was that disaster-related mental health services were not needed, certainly not in the short run. The local system, therefore, only reluctantly went along with the extra-systemically initiated Three Stage Plan. It is probable that even the nominal support offered this plan might not have been extended if there had not been such emphasis placed by some on the idea that the mental health sector necessarily had some function in such a community crisis. This was an often-expressed social value. Thus, the 648 system went along with the Three Stage Plan, and soon afterwards, despite the failure of the plan, even provided some resources for the two emergent groups delivering specific disaster-related services.

But of course, as indicated, relatively few resources were provided the emergent groups, and while they were formally linked to the local system, they were never integrated into it. The existing traditional organizations, in turn, were discouraged from getting involved in any way with new disaster services. The attention and resources provided to the old contract agencies were clearly intended to move them along the line of implementing their roles in the new mental health delivery plan that had been prepared before the tornado, and that had awaited the availability of the levy money.

Thus, the high priority placed by the 648 Board and staff on implementing the new master plan for mental health delivery effectively helped to keep the existing organizations from getting too involved, even if they had wanted to, in providing disaster-related services in Time Two. On the other hand, the local system had indicated that it

assigned at least some minimal value to the delivery of disaster-related services by going along with the Three Stage Plan, and by providing some resources for the emergent groups. It is doubtful that either the plan or the emergent groups would have gotten very far in the face of total opposition by the 648 Board and staff, that is, if the priority had been absolutely zero.

Prevailing Assumptions. A normative assumption made in Time One was that the local mental health system should be relatively task-specialized with specific populations as target clients. In Time Two, although the emergent groups had different goals, the system as a whole maintained the same belief. The established organizations remained oriented towards treatment rather than prevention, and assumed that certain categories or classes of the population were their particular responsibility. Of course, the additional assumption was made that if there were any disaster victims in the client population being served, the existing organizations could meet their needs and demands. Only the emergent groups of the Greene County mental health system made the different assumption that the total population had to be searched for those who had disaster-related needs. But the overall system, particularly in terms of its coordinating unit, the 648 Board and staff, never had this as a dominant or prevailing assumption.

When the tornado hit Xenia, to the extent that the established organizations as a whole thought of responding to the disaster, they generally accepted their traditional stances or domains. That is, they anticipated focusing on a specifically identified category of the population and operating with their relatively specialized techniques. As noted earlier, the Guidance Center, for instance, while it explored the possibility of transposing its destroyed office facilities into a large trailer, did not consider changing its treatment modalities, or question its expectations that clients would seek it out for services. As one local observer said of this agency:

You know, the Guidance Center is cast in the traditional mold of sitting there and letting folks come in and they get fixed. So they had a hard time finding anything to do after the tornado with the kind of structure and philosophical orientation they had. They had just never been very enthusiastic about outreach prior to the tornado, although the director seemed to have a good conception or philosophy of community mental health. But the behavior of the agency did not show evidence of this.

Underlying this orientation, of course, was the belief that the goal was primarily the treatment of people with already developed problems (e.g., disaster victims with either specific problems or symptoms the existing agencies usually dealt with such as drugs, alcohol, family conflicts, etc.). This view is expressed in the following remarks:

Those individuals whom I saw who had difficulties in part relative to the tornado, most always within the first 20 to

40 minutes after the session started it became apparent that there were other periods of time that they had a lot of difficulty, traumatic situations which may not have been totally resolved emotionally. Well, oversimplifying it, the tornado was the last straw. The tornado or the reaction to it was maybe the impetus needed to get them into a treatment setting which they may have needed and benefitted from prior to the tornado. So the actual therapeutic efforts we used were not unique to someone who came out of the tornado, but someone who's experienced gross stress as they may have experienced gross stress in other like situation, like the death of a member of the family, loss of a job, on and on and on.

Contrasting with this point of view was the assumption made by the emergent parts of the local mental health system. They assumed that the total population in the disaster area were potential clients and that multifaceted and myriad crisis intervention strategies had to be used. Underlying this orientation was a belief that what had to be addressed in the disaster situation was the matter of prevention. That is, the goal was to work on practically anything that might serve as a source of later mental health problems. The object was to prevent problems from appearing and not to wait to respond until behavioral symptoms appeared.

The high degree of specialization assumed by the established organizations and the conversely low degree of specialization accepted by the emergent groups could be seen in Time Two in Xenia in a number of ways. Interfaith, for example, found it perfectly acceptable in its normative framework to see itself as providing relevant disaster-related services when it found a wheelchair for a tornado victim. This is quite different from the Guidance Center, who, when children were brought to it expressing fears of storms, set out to delve into each individual case as to what the underlying psychic problem was that led to the manifestations of such a symptom. As one professional on the staff said:

I generally found that the type of person I saw for counseling were people who have probably a lot of inter- and intra-personal problems anyway. So, therefore, they couldn't cope as well with the disaster as a person who was better prepared or put together, who copes well generally. Say, if a family had strong ties, you wouldn't see them showing up here because they would cope together and help one another. So, when a mother would appear here with her child, I would immediately wonder what kind of marital relationship does she have with her husband, because she wasn't bringing her husband. And so I would feel there was some underlying problem that this disaster must have brought to the surface, and the anxiety became higher. Her defenses broke with the disaster maybe. And this became the excuse to go for the help which perhaps she needed all along.

These radically different orientations, of which the above are merely examples, made it impossible for any overall service network to develop, creating an uneven response by the system as a whole. The different assumptions involved in which services were to be provided also, oddly enough, insured that there would be almost no direct competition for clients between the two major subcomponents of the local mental health system, the established organizations and the emergent groups.

Finally, the dominant assumption of the mental health system as a whole -- that it did not have a general responsibility to provide certain kinds of disaster-related services -- meant that the field was wide open for the emergent groups with their high degree of autonomy to range widely in delivering services. Thus, the emergent groups (as well as some of the peripheral organizations) ranged from almost literally "holding the hands of disaster victims" to arranging ice cream socials to assisting homeowners in replacing destroyed refrigerators to having neighborhood housewives sitting around and ventilating their feelings about almost anything! If the system had totally and narrowly focused on mental health problems per se, many demands and needs of disaster victims would have gone unmet. A question could be raised, and it was within the local 648 system, as to whether a mental health delivery system should be involved in providing any such services. But to the extent that the system passively permitted some of its parts, the emergent groups, to undertake such general tasks, services were provided that otherwise might not have been provided by anyone.

To summarize, three internal normative dimensions affected the capability of the local mental health system to adapt in Time Two: the diversity of means, the hierarchy of priorities and the prevailing assumptions. In general, the preceding analysis indicates that the Time Two normative features of the delivery system in Xenia considerably facilitated the wide and free ranging activities of the emergent groups. These internal factors in part limited the established organizations to their traditional tasks. But the system was able, almost in spite of itself, to acquire new and additional capability by the creation of new groups meeting demands which the older organizations could not and did not meet.

Dynamic Aspects. Just as the system was undergoing change in Time One, there were certain dynamics in the system in Time Two. As discussed earlier, some of the dynamic aspects were simply carry-overs of trends from Time One. But other dynamic features of the system developed after the disaster, in Time Two itself.

Among the more important dynamic aspects of the Time Two period were the following. The 648 Board and staff not only refocused its view, but almost forced the system to address itself to the bringing into being of the new, planned mental health delivery system. This refocusing was done rather suddenly, from the perspective of the contract agencies. Furthermore, the 648 Board and staff worked at preventing

the development of any permanent, specifically disaster-related programs. Finally, as seen by the contract agencies, the disaster was seen as being used as a device by the 648 Board to gain complete control over establishing the priorities of service delivery under the planned new system. While these factors were not totally independent of what had occurred in Time One, they were, in general, conditions which primarily developed in Time Two. Separately or together, all these postconditions affected the capability of the local system to adapt to the disaster.

As we have indicated, almost from the time the tornado funnel set down in the southwestern corner of Xenia, there was resistance on the part of the 648 Board and staff to the involvement of the local mental health system in the disaster response. Under pressure from the outside, there was an initial going along with the institution of the Three Stage Plan and a less than enthusiastic giving of resource support to the emergent groups. But relatively quickly, within a matter of a few weeks, the thinking and activities of the 648 Board and staff were almost totally refocused on the work necessary to bring into being the planned, new mental health delivery system. The emergent groups continued to operate, but in one figurative sense, almost off in a corner of the system, unattended if not actually ignored.

Existing organizations on the other hand were clearly called to account, and policies and decisions affecting their future started to roll out incessantly from the 648 Board and staff. In essence, whether intended or not, the contract agencies were forced into an organizational survival stance. The reorganization of the local system planned had implications for all of them. Rather than wasting their time and efforts in carving out a new domain of disaster-related service, most of them were concerned about defending old domains, trying to prevent themselves from being too drastically reorganized, in structure and function. Even the most extreme possibility, organizational death, was more than a possibility. This was the reality that faced one agency, the Crisis Center, which interestingly enough had been in the short run the most disaster-active group of all the existing organizations. Thus, the actions of the 648 Board and staff in continuing to reorganize the system in Time Two veered away from any possible development of a disaster-related program by any of the existing organizations. There was no payoff in such a move given the negativity of the board and staff to special disaster programs and their determination to institute the new mental health delivery system. If no other condition other than this one had been present in Xenia in Time Two; it would have been enough by itself to steer any of the existing components of the local mental health system away from any disaster-related service emphasis.

Furthermore, the quick refocusing on work having to do with the reorganization of the local system somewhat surprised a few of the contract agencies. One or two of them in Time Two had attempted to think about and to plan for some disaster-related services. The Guidance Center, in fact, had initially bypassed the 648 Board and had gone

directly to the state for funding what was to develop into the Follow-Up Group. Some other activities were projected, but relatively suddenly, as the contract agencies saw it, the 648 Board and staff lost all interest in the disaster. Perhaps more accurately, they stopped exhibiting public interest in disaster programs. Some local mental health personnel were always suspicious about the 648 Board and staff on this score. As one such person said:

From the beginning, 648 was reluctant to get involved with the tornado. And I think the only reason that they have done anything, if they have actually done anything, is because of the pressures from the State Department of Mental Health and from NIMH. Because, you know, these big shots were around looking over their shoulder and saying "What are you going to do or what have you done?"

At any rate, the contract agencies saw what happened to be an almost precipitous dropping of any concern with disaster-related programs by their coordinating and supervising unit. It was another factor that served to cool any ardor to consummate a marriage between the capabilities of any of the existing organizations and the perceived demands for services by disaster victims.

The 648 Board and staff always defined the emergent groups as temporary entities, contrary to the suspicions on this score entertained by some of the other local mental health professionals. In fact, if anything, there was some concern in the 648 Board and staff that Interfaith and the Disaster Follow-Up Group might drift into becoming permanent organizations, or in the words of one official, "might try to build empires." Apart from that and more important was the fact that the new mental health delivery plan had no room for any agency primarily devoted to disaster-related problems. This is expressed in the remarks of a local mental health worker who commented:

The 648 Board wanted to view all of these disaster projects as temporary. They just didn't want to commit themselves to anything permanent, possibly because of the state of transition in which the board was in in terms of planning. They were fearful of hiring say five more people and then having to keep them on forever. Also, they didn't like the idea that these people who wanted to be hired to do tornado services would somehow evolve empires of their own and become another nucleus of power, and that the 648 Board might then lose control over them. This, you see, might interfere with their plans, you know, the overall services being planned for when the levy money took effect, because they already had in mind just how they wanted to commit the new monies, or at least in a general way.

Thus, the 648 Board and staff were interested in and did phase out the two emergent groups after the first six months of Time Two.

In part, this accounts for the weak resources support provided to the two groups; in part, they were not more strongly supported because they might develop too much, and with limited resources, it did not seem meaningful to invest them in groups with known, fixed short-run life spans. When the emergent groups were born and could not be aborted, the 648 Board and staff were willing to support them just enough so they would not survive to become old. A different decision could have been reached, but as it was, the emergent parts of the local mental health system were marked for death almost as soon as they appeared and this partly accounts for the offhand way in which they were treated by the 648 Board and staff.

In addition, in some ways, and perhaps initially almost unwittingly, the 648 Board and staff used the disaster to speed up the implementation of the new mental health delivery plan. That is, the system responses to the disaster exposed all sorts of administrative weaknesses and problems such as the already mentioned failure of the 648 Board to exercise its legal authority, the absence of proper supervision by the 648 staff over the contract agencies, etc. When the Guidance Center bypassed the 648 Board and appealed directly to the state for funding disaster-related services, it merely was a manifestation in Time Two of what had been prevalent in different ways in Time One. But both the 648 Board and staff used some of the happenings in the early Time Two period as excuses, often very legitimate ones, for imposing coordination and supervision on the different subparts of the system. This was not attempted with the emergent groups because by not being part of the master plan, they were not going to be around in the long run. But the existing organizations were brought more tightly under control, taking away such autonomy as they had that would have helped their direct adaptation to the disaster.

It is clear that the trends in Time Two were all related to the implementation of the planned mental health delivery system. They all served to limit, restrict or otherwise affect the existing organizations in the local mental health system from venturing too far into disaster-related services. Conversely, although more by passive neglect rather than active support, the dynamics of Time Two encouraged the creation and the free-ranging activities of the emergent parts of the system.

Exogenous Postconditions

There is one final set of conditions which we will discuss. This had to do with the post-disaster exogenous conditions which affected the response of the Greene County mental health delivery system after the disaster. These external or exogenous conditions will be examined, as we did earlier for preconditions, in terms of four key elements of a system environment, i.e., suppliers of resources, regulatory agencies, users of services, and competing groups. Similarly, we will make an analytical distinction between the environment of the mental health delivery system in Xenia and the social environment outside the area;

but, as in the earlier discussion, this analytical distinction will not always be maintained in the exposition.

Supplier of Resources. There was a certain loss of material resource capability by the local mental health delivery system in that the 648 staff and one of its major contracting agencies, the Guidance Center, lost their physical facilities. However, this reduced capability, while directly precluding office operations on any scale for a week or so, was quickly compensated by external sources. The state not only initially offered to attempt to obtain a trailer to house the 648 staff, but eventually ended up funding at a 100 percent level the facilities temporarily leased for a number of months by the 648 staff and the Guidance Center. Thus, the physical capability of the local mental health delivery system in Time Two was rather quickly restored to roughly the same level it had been in Time One. To be sure, the temporary nature of the office quarters and the loss of some records did not quite allow the total reestablishment of operations, but in a fundamental sense the mental health delivery system as a whole suffered only some temporary loss of physical capability. Outside of the first week or so, whatever was occurring in the local system was the result of factors other than the material resources available.

There was no direct loss of financial support as such as a result of the tornado. But there were, even in the emergency period, increased costs. Again, however, the external point of contact for the funding of the system, the State Department of Mental Health, moved quickly with promises and, for the short run, with actual funds to meet the unexpected expenses in early Time Two. Thus, as noted, the unspent state per capita money was returned to the 648 Board, an action which would not be taken under normal circumstances.

However, the altered relationship between the external supplier of funds and the Greene County mental health system had several different effects. Along one line, the promises and early provisions of some funds did help to move the system into uneasy action. Earlier we indicated that there was relatively little initiative or incentive within the local system to provide mental health services in the wake of the tornado. A substantial amount of the emphasis on developing a response came from sources external to Xenia, including from representatives of the State Department of Mental Health. The activities of and contacts with officials of the state were seen by local mental health personnel as pressure to develop certain kinds of mental health services for the disaster. The funding offered by the state was perceived as only a more subtle form of this pressure to initiate an organized response. The state actions, therefore, served to take away any excuse for local inaction because of lack of facilities or funding.

On the other hand, some of the state actions were promises rather than concrete provisions of aid. As indicated earlier, the 648 Board and staff felt themselves pushed to commit funds which, while promised, were not actually at hand. The state's slowness in providing the longer-run

funding clearly reinforced the local system's reluctance to act and get involved in the provisions of disaster-related mental health services. Therefore, the state's Time Two relationship to the local system worked in both directions; it made for pressure to act, but it also unwittingly served to support the initial unwillingness to act.

The levy money from the community that the local system was scheduled to start obtaining in January of 1975 also played a part in the disaster response. It clearly was going to provide the local system with a major independent source of funding, thus freeing it from as heavy a reliance as it had in Time One upon the state. The expectation of the levy money reinforced the reluctance to get involved. In addition, the levy money was going to allow the implementation of the new mental health delivery system that had been planned. This supported the strongly held belief in the local system, including in the 648 Board itself, that efforts should be directed toward continuing to implement the planned system instead of diverting attention and energy, if not resources, into temporary disaster-related programs.

Information is also another important resource for a system. Prior to the tornado, much of the information flow within the system about mental health problems originated within that system itself. The tornado rendered some of that information obsolete because of the rather different demand situation in which the system found itself. Thus, previous professional suppliers of information from within the local mental health system not only were unable to provide relevant information for others, but themselves became seekers of the knowledge necessary to function in the post-disaster setting.

The gap thus created was mostly filled by elements external to the system. Whether it was freely advising NIMH officials, highly paid consultants, or other professionals or experts, they were very influential in determining what people in the local system came to expect about what was going to happen and what they should attempt to do about such developments. For example, the debriefing sessions of the Follow-Up Group, the increased effort on the part of the Greene County Alcoholism Unit to locate persons with drinking problems, and the emphasis on the utilization of mental health "gatekeepers" (an idea still prevalent in Xenia today) were all in some fashion influenced by information supplied by an outside mental health expert. Although much of the advice and many of the suggestions provided by outsiders were locally opposed, this information link did have significance for the Time Two response of the mental health system. It defined expectations and appropriate actions. Much of the initial emphasis on prevention rather than treatment, and the notion that it was necessary to search for potential clients in the total population, rather than to wait for disaster victims to ask for services as medical patients would, came predominantly from outside the local system and the Xenia community. Thus, one local mental health worker observed that a federal official...

... just shared for about an hour the experiences that they had at other places, the kinds of things that ought to be

done, and the order in which they ought to be done. That was tremendously helpful. And the steps, you know, the people will go through, and what ought to be done now, and what ought to be done six weeks from now.

As already indicated in discussing exogenous preconditions, external sources were suppliers of personnel also. It was noted earlier that many volunteers who participated in the Three Stage Plan came from Dayton organizations. Both the spatial distance of the volunteers from Xenia and their relative unfamiliarity with the Xenia area worked against an active searching for individuals needing mental health care. Thus, the Dayton personnel in most cases were limited to seeing only those victims who happened to come to the shelters and sought services. This lack of mobility was, of course, supportive of the medical model of service involved in the planning and attempted implementation of the Three Stage Plan.

From the second or third week on after the tornado, most volunteers delivering mental health services were residents from areas in or closer to Xenia, and many of these volunteers were housewives or students from local seminaries. The greater ease in traveling around Xenia in terms of miles driven and a known territory, and the freedom with regard to any formal job obligations allowed the second wave of helpers to be employed in a rather different way than the original wave of volunteers. The less constraining circumstances of the local volunteers permitted the greater flexibility necessary for creating an outreach program as opposed to temporary outpatient clinics. Therefore, the change in source of volunteers from non-local, professional groups to local, nonprofessionals contributed to a change in orientation from the medical model of the Three Stage Plan to the human services model of the later responses in Time Two. Yet the original input of extra-systemic personnel into the local mental health delivery system had actually worked to orient it temporarily into a less disaster-relevant attempt at provision of care.

The initial outside volunteers also had certain images of the help to be rendered that were not consistent with those held by many local people and which thereby evoked resistance. The different imageries involved and the reaction that resulted because of this can be suggested by contrasting comments from DRC interviews with first an outside mental health volunteer and secondly with a local mental health worker.

This came from our meeting for those who were designated to be going over to work with the walk-ins. It was stated that there would be four likely groups. There would be the children, in which case we should do psycho-drama with. We would have adults who were in the first stage with the shock, from the spectrum of confusion to the out-and-out full psychosis. Next we would see dependency relating to aggression from guilt to depression. We were not to be sympathetic. There would be no hand holding. It was to be

treated by confrontation, "What are you going to do about your problem?" The third group would be the elderly who would be confused, disoriented and may need hospitalization. Then there's a marginal group, sort of a catchall. But they were such as alcoholics whose need was for drinks since the liquor stores were closed and the bars were wiped out. There would be also those who were considered mental patients to begin with, the former patients.

I guess I had the conviction that nothing at the moment was going to happen to people because they had too many other things to keep them occupied. And, gee whiz, they didn't have time to have an emotional breakdown. They had to find a place to live or fix up their homes, get clothes and see if their family and neighbors were OK, and things like that.

Regulatory Agencies. The Greene County mental health delivery system's regulatory environment consisted of the national, state, district and tri-county mental health organizations as well as the local county commissioners who might have had some direct authority, power or influence over it. Some of the changed relationships in Time Two, especially the state's role as supplier of financial resources, we have already discussed.

However, the state was also important in another way. This had to do with the content of the massive advice and suggestions that were passed on to the local mental health system, especially the 648 staff. From the perspective of the state and district officials, the state was not advocating drastically new disaster-related programs, but was instead pushing for the integration of the new activities with the ongoing delivery system including the planned reorganization. Local personnel did not perceive the advice in these terms at all; in fact, there is some doubt that they perceive it that way even today in retrospect. One result of this miscommunication was a general resistance to the initiation of any new disaster-related program.

Also, the state, in advocating disaster-relevant programs, thought that by doing so it would help legitimate the 648 Board and staff as the coordinating group of all mental health delivery services in the area. But as indicated, and for obvious reasons, this coordinating function was especially poorly handled particularly in the early phases of Time Two. If anything the failure of the 648 Board and staff to accomplish any kind of meaningful coordination immediately after the disaster served to undermine some of the legitimacy it had had in Time One. More than one mental health and social service-related organization in the Xenia area defined the lack of coordination by 648 personnel in Time Two as a major flaw of the whole system. To be sure, there was a tendency to couch the problem in terms of the personal inadequacies of some individuals rather than as an intrinsic structural problem of the system. But however it was explained, far from enabling the board and

staff to exercise a key function as they were mandated by the 648 law, the push by the state had almost the opposite result. If anything, it led some organizations to shy away from becoming too involved with the 648 Board and staff.

The activities of the state were also suspiciously viewed by some local mental health personnel because they were seen as at least partly dictated by non-mental health considerations. That is, some mental health professionals thought the state's interest in getting something quickly organized in the Xenia disaster had perhaps more to do with bureaucratic and political considerations than with a genuine concern for victims' needs. As an experienced worker from one of the local contract agencies noted:

It has been my experience that the State Department of Mental Health stays out of local affairs as much as possible, but offers their kind of expert advice when help is asked for by the local community in one way or another. I get the queer impression that they don't mess with local political problems and that they leave the local people to deal with their affairs. But they certainly involved themselves with this... I wonder if maybe the state didn't have the national government looking down at them and saying "What are you going to do about the tornado?"

When state action was interpreted in such a light by professional personnel at the local level who had not asked for higher level assistance, it did not make for ready compliance with whatever was being advocated.

Of course, state as well as federal officials generally did not visualize themselves as exerting pressure. But if there is one theme that runs through the comments of many, although not all, officials and staff workers of the local mental health delivery system, it is the perception of being urged and pushed to initiate mental health activities which were not thought warranted. When coupled with the notion that the extra-systemic organizations were advocating courses of action for the "wrong" reasons, any such visualized pressure was unlikely to evoke anything more than nominal agreement. One local contract agency staff member said:

I thought there would not be a need for mental health services of any kind because people would be absorbed in other problems, physical needs. But people from the state and federal levels seemed to think differently. I didn't feel pressured in my own head to do anything, but I felt pressured by all of these other people, you know, sort of political pressures.

A positive acceptance of outside assistance and intervention was not facilitated furthermore by the belief of local people that some of the outside groups thought that the Greene County mental health delivery system was simply incapable of handling the problem. While outside

organizations rarely voiced such an opinion openly, it did exist in at least some cases. An important Dayton mental health official, for example, said:

I think that the reason that so many of us went in to offer our assistance was because the whole mental health system in Greene County was a weak system. I don't know if I would say it was the 648 Board alone, but that the whole system was weak. And in the face of this kind of disaster, it seemed that there needed to be as much help as possible from the outside. It was obvious that the staff was not able to function, and I didn't see the board function. They were knocked out, the staff offices that is. I think the state people recognized that they needed something more than their own resources were able to provide. I mean, my God, what do they have over there?

To the extent that this and similar attitudes were sensed by local personnel, there was bound to be a negative attitude toward outsiders. This kind of strain in local/outsider relationships in a disaster is, of course, not unique to Xenia nor to the mental health service area; DRC has found it an almost inevitable feature of major disasters and in most activities where disaster-related services of any kind are delivered (Dynes and Quarantelli, 1975).

To be sure, not all outside groups nor all activities by persons from outside the local mental health system were viewed in a negative light in Time Two. The assistance offered by the district office, although surprising because it was so different from the almost nonexistent official relationship in Time One, did not evoke a negative reaction, at least initially. In these and other situations where outside agencies were positively viewed it was because they were seen as having a very legitimate function in whatever they were doing. Thus, it seemed reasonable to local personnel that a district office should attempt to help in coordinating the assistance coming from another 648 system (e.g., the volunteers from Dayton). Similarly, the Tri-County Mental Health Association (covering Montgomery, Preble and Greene counties) since it regularly monitored the activities of the mental health delivery systems on behalf of citizens and had been influential in the long-run planning and the passage of the levy for the Greene County mental health system, was not negatively viewed. In fact, as one local mental health professional said of them:

The mental health association in Greene County is very active. I guess it's about the best in the state in its organization and funding and everything else. They're a pretty good watchdog agency.

Users of Services. Up to this point we have talked about demands in the situation almost as if they had an existence independent of social behavior and were simply so-called objective facts uncontaminated by

human actions. However, in discussing users of services in Time Two, it becomes necessary to take into account the difference between perceived demands and actual demands. It is with regard to this element of the system's environment, the users of services, that the difference between perceived demands and actual demands becomes very salient. "Actual demands" in this discussion are the requests for assistance, help, aid, etc., that are voiced by those persons involved in a community crisis. "Perceived demands" are what is projected or seen by officials and delivery service personnel as being needed and required in a situation. There obviously can be major differences between the two views. There were significant differences in this respect in Xenia.

Numerous examples have already been given, for instance, partially because the staff of the Guidance Center perceived a great increase in the number of clients which would have to be treated as a result of the tornado, the Clark County Mental Health Center was asked to assume responsibility for the Fairborn branch of the Guidance Center. As we have seen, these perceived demands were rather out of proportion with the actual demands.

An even more significant disparity between perceived and actual demands of clients was exemplified by the Three Stage Plan. In that particular instance, a rather elaborate three level organization was constructed only to find that the numerous victims it assumed would become available for treatment, never materialized. Thus, although a perceived increase in patients was a major Time Two condition leading to the development of the Three Stage Plan, the increase projected simply did not occur.

However, it is true that the local mental health system as a whole, and especially the 648 staff, consistently perceived lower demands for services than did others, including a few of the contract agencies and especially the outside groups. Part of the difference in perceived demands stemmed from a different image of the services required. Local mental health people, at least some of the 648 staff and a few of the contract agencies simply did not perceive that there would be much need for traditional mental health services. In this respect, their perceptions corresponded to actual demands for such services. On the other hand, many of those who projected increased demands for services were thinking less in traditional mental health terms and more with the imagery of the newer community human services model. In this respect, their perceptions also corresponded to actual demands for such services. However, the fact that different parties, in interacting with one another, had different concepts in mind (some talking of certain kinds of demands whereas others were referring to rather different kinds of demands) was seldom recognized. This led to much talking past one another, disagreements and eventual conflict within the local system, and between the local system and other organizations involved in responding to the disaster.

The concept of demand assumed also affected the manner in which different parts of the local mental health delivery system responded.

Thus, a change in an element of the social environment of an organization or a system may be either qualitative or quantitative. For example, the perceived increase in clients upon which the Guidance Center acted was essentially a quantitative change in which it was supposed that an increasing number of victims would require traditional treatment strategies. On the other hand, the Crisis Center acted on the belief that there was an increase not only in the quantity of demands but also in the types of services necessary. When an organization (or more precisely, the personnel of an organization) perceives demands as changing only quantitatively, we could expect that the organization would primarily expand in size without altering the types of services offered. This is what happened in the case of the Guidance Center after the first phase of its reaction. In other words, when an organization perceives a quantitative change in demand for its services, it is likely to expand to handle the greater number of users which it assumes it will have.

On the other hand, if what users require is seen as a qualitative change, i.e., requiring different types of services, the agency is likely to alter its tasks or goals, becoming a Type II organization. If no such organizations are around, the emergence of new groups to service such users is greatly encouraged. Both of these situations occurred in Xenia. Among the organizations which perceived a qualitative change in client demand were existing organizations who developed new tasks such as the Crisis Center and Metropolitan Churches United, and emergent groups such as Interfaith and the Disaster Follow-Up Group. Thus, the concept of users of services that was developed in Time Two along the lines indicated was partly responsible for the differential and uneven responses by the local mental health delivery system as well as for the emergence of other organizations that became involved in providing mental health services.

Competitors. This element of the local mental health delivery system's environment consisted primarily, although not exclusively, of the social service organizations. While these organizations are designed primarily around other goals, they may and in Xenia did contribute to the provision of mental health services in the broad sense of the term. To the extent that their activities overlapped somewhat with that of the local mental health system, they were competitors with the contract agencies of the 648 system, and the emergent groups linked to the 648 staff.

Competition may be along three major dimensions: resources, services and clients. There was relatively little competition for resources in the Xenia situation between the local mental health system and the peripheral organizations. There was no competition over materials or personnel; with respect to the latter, if anything, there was an abundance of volunteers. Relevant information of a mental health nature was also easily available to everyone. Attention had been given in the early meetings of the emergency period to inviting representatives from as wide a range of organizations as possible. While within the local mental health delivery system competition for available funds at times

became ferocious and bitter, with the major exception to be discussed below, there was little competition for financial support between the local mental health system and other community segments involved in the disaster response. Most drew their funding from rather different sources.

About a year after the tornado, verbal guerrilla warfare did erupt between the Greene County mental health system and some segments of the local medical and public health system. While the climax of the conflict extended beyond the time limits of this report, and would take us too far afield to examine in detail, the seed of the controversy resided in competition over the use of available disaster-related funds. Towards the anniversary of the tornado, the flow of money from the outside to Xenia slowed perceptibly. Furthermore, some of the earlier promises or indications of the amount of outside funding that would become available were not realized. The rising expectations that accompanied the early months of Time Two slowly settled. As is typical in the longer-run Time Two period of most disasters (Dynes & Quarantelli, 1975a), conflict marked the interactions in Xenia between different systems as they fought over the dwindling external financial resources. There was competition over the services provided. Insofar as human services became a focus of the local mental health system activity, the provision of such services at times duplicated what other systems and organizations were also offering. But in the first few months after the tornado such duplication was not considered a problem. In one of the interagency meetings in May, for example, it was discovered that seven of the agencies represented at the meeting were offering some kind of outreach services. However, it was agreed that the resulting duplication of services was admissible if more persons who would ordinarily have not been reached were provided services. In a way, a criteria of effectiveness rather than efficiency was assumed.

However, by July duplication of services came to be considered a problem. Attempts were made to standardize relations between agencies in order to limit duplication. Such efforts were of only minor success in regard to the relation between the Disaster Follow-Up Group and Interfaith. But Interfaith was able to reach an agreement with the Welfare Department whereby Interfaith was reimbursed for servicing welfare clients. The agreement tended to reduce duplication of services somewhat between those two agencies. Therefore, in contrast to competition over resources which initially was concentrated among the contract agencies, the competition over services offered was manifest primarily in the relationship between the mental health system and social service agencies.

Finally, competition may also occur for clients. Although analytically the distinction between competition for clients and competition for services offered is clear, in practice the two types of competition may be difficult to differentiate. For instance, the agreement between Interfaith and the Welfare Department mentioned above was primarily an example of competition for clients. It was discussed above because

of the effect of the agreement on the reduction of duplicate services. Likewise, the competition between Interfaith and the Disaster Follow-Up Group was not only concerned with attempts to offer different services but also to specify the population to be served by each.

A clearer example of competition for clients occurred between the Yellow Springs Senior Citizens and the Golden Age Senior Citizens of Xenia. Both organizations claimed the right to offer services to the aged in Xenia, although the latter organization claimed sole legitimacy for this population. Thus competition in this instance was not over services offered but rather clients served.

The interaction between the Red Cross and the officials of the State Department of Mental Health a few days after the tornado is also an example of this competition for clients. The competition was not over services offered, since the services of Red Cross are quite different from those which were supposed to be offered by mental health workers at the disaster shelters. Instead, the situation may be more accurately viewed as competition for clients -- that is, those persons who would come to the shelters for aid.

In the post-disaster situation in Xenia, therefore, competition occurred for three main phenomena: resources, services offered and clients. Competition for resources outside of the mental health system only surfaced late in Time Two between the local mental health delivery system and the medical-public health complex. Competition for services offered, on the other hand, was more common between given social service agencies and the mental health system. Finally, competition for clients was as frequent between social service agencies and the mental health system as it was within the mental health system itself.

To summarize, changes in the relationships of a system to the different elements of its environment are important conditions affecting its response to an extreme stress situation such as a disaster. We have indicated how the convergence on the Xenia mental health delivery system by outside suppliers of financial, informational and personnel resources had a mixed effect on the response of the system. Similarly influential were the Time Two altered relationships of the local system with what we termed regulatory groups. The perceived pressures and associated negative attitudes toward outsiders explains much of what happened in Xenia especially in the emergency period. Insofar as users of the system were concerned, we have illustrated the importance of the difference between perceived and actual demands, as well as how a perception of whether the changes in demands were quantitative or qualitative influenced organizational adaptation within the system. Finally, competing groups conditioned in various ways the response of the local mental health delivery system.

The conditions we have set forth in this chapter as being linked to the characteristics or behavior of the mental health delivery system in Time Two are both complex and interrelated. The explanation, or phenomena

being explained, involves the short- and long-run responses of a system with a number of traditional and emergent parts as well as the related activities of peripheral groups, and the factors which appeared after the tornado as well as those that were carried over from before which influenced all of this. Neither were all the conditions always influential in the same way.

The early state actions, for example, acted as pressure on the 648 staff to organize a response, but at the very same time increased the reluctance of that same staff to initiate any new disaster-related programs. There were many contradictory and inconsistent elements in the total picture.

We have suggested that the conditions involved had a major effect on the capabilities of the system as well as on the perceived and actual demands. Demands were reluctantly seen both as having increased and later as having changed in quality (i.e., for preventive human services rather than for clinical treatment). The system, therefore, under considerable external pressure, attempted to adjust its capabilities to deliver what was thought to be the required services. However, the existing structural and normative arrangements of the system were inadequate for the job, contributing both to a delay and an unevenness in response. Therefore, the system spawned some emergent groups which were non-traditional both in terms of organization and tasks. The new groups sought in the general population those to whom human services could be delivered, seeking by this to prevent problems from arising rather than waiting to treat those people who might appear for aid.

If the indicated conditions created the indicated kind of system response, what would the consequences be? That is, what difference would it make for the victim population? The next chapter deals with this question.

VI. CONSEQUENCES OF THE MENTAL HEALTH DELIVERY SERVICES

In this chapter we examine the consequences or outcomes of the mental health services provided in the Xenia disaster. After a brief introduction, we first analyze the effects that the delivery of services had on the mental health system itself. This includes looking at system components, coordination, domain and autonomy. Then we discuss what actual demands for services existed among the victim population. This includes an assessment of all indicators of mental health needs which our research was able to compile. Finally, we relate the seeming needs or demands in the situation to what was provided or delivered by the system. This involves a discussion of the effectiveness and efficiency of delivery services given victim demands in Time Two.

Introduction

In the previous chapter we attempted to specify the conditions which were responsible for the characteristics exhibited by the mental health delivery system subsequent to the disaster. In general, we found that what was manifested by way of services in Time Two was the result of two basic sets of conditions. First of all, there were those factors carried over from the pre-impact context in Time One, and secondly, there were the particular post-impact conditions which were actually generated by the disaster event. We tried to specify in what way they had an influence on the characteristics of the services delivered in response to the tornado.

However, this chapter attempts to analyze the delivery of mental health services following the Xenia disaster from another vantage point. While in Chapter V the discussion was concerned with pointing out those factors which influenced or produced the behavior of the local mental health system in Time Two, in this chapter we attempt to examine the consequences or outcomes which were produced by the efforts undertaken by the mental health system to deliver services to victims. To the extent that the services provided by the system in Time Two were at variance with its day-to-day Time One operations, this was bound to have some type of impact on the system itself, its organizational components, and the people it served. In order to determine the nature of this impact, we show where there were various consequences or outcomes resulting from the behavior manifested by the local system attempting to deliver mental health services in relation to the disaster.

Certainly the most crucial, practical question to be answered is what were the consequences or results of the services provided for the victim population. However, the answer to this question is inextricably intertwined with the impact which the actual effort to deliver disaster-related services had on the mental health system itself. That is, if the disaster event had consequences for the structure and functioning of the mental health delivery system, this would, in turn, result in certain

consequences for the clients for which it exists to provide services. Thus, in order to understand the full ramifications of the services provided by the mental health system in responding to the tornado, it is necessary to identify and analyze those consequences observed for: (1) the mental health delivery system as a whole, including the various organizational components, and (2) the victim population served.

However, to note and examine where in the social and human spheres there are consequences is not enough. Important, for instance, are the temporal dimensions of effects, that is, were the outcomes of the delivery of mental health services only temporary or were they more permanent?

In identifying the various consequences, the temporal distinction between the short-run and long-run period will be retained. However, as we stressed earlier, there is no clear-cut demarcation between the short-run emergency period and the longer-run rehabilitation period following a disaster, since this not only varies from one community system to another but from organization to organization within a particular sector of a community. In fact, the very question as to when the mental health system should have turned away from immediate disaster-related problems and returned to a focus on long-range community problems, disaster-related or otherwise, was itself highly problematic for the organizations in Greene County. This was even a matter over which there was considerable conflict. In particular, several of the contract agencies sharply disagreed with the timing of when the 648 Board and staff resumed routine Time One planning activities, thereby turning attention away from the disaster. Yet while a sharp dividing line can not be drawn, a rough distinction can be made based on the activities and case loads of the various organizations involved.

In identifying the consequences of any social phenomena, it is important to examine not only those consequences which are intended and recognized by the participants, but those consequences or outcomes of the phenomena which are neither intended nor recognized as well. In other words, we are also interested in looking at the latent functions of the services provided by the mental health system in responding to the disaster. By latent functions we mean those consequences which are neither intended nor recognized by the parties involved in the situation. In this respect, they are distinguished from manifest functions which are both intended and recognized (Merton, 1957). The distinction is not however merely a conceptual one, as often these latent functions provide a more credible basis for understanding otherwise paradoxical phenomena than any alleged manifest results would afford.

This is illustrated by an example from another study conducted by DRC following a flood which occurred along the coast of the United States in the aftermath of Hurricane Betsy. On the whole, research has shown that the existence of prior communitywide disaster planning has the manifest or intended consequence of increasing the efficiency and effectiveness of the organized response to a disaster (Dynes, Quarantelli and Kreps, 1972). The particular city we studied had a very elaborate and rather excellent disaster plan. Yet the plan was geared toward responding

to hurricanes. When a major flood occurred in the city, it was evident that the relevant organizations were unable to implement quickly any kind of effective response to it. However, this did not stem from a general lack of planning as is often the case, but rather it was because of the specialized nature of the planning which existed. The plan developed for hurricanes was clearly inadequate for responding to a flood disaster. For example, the plan specified that the utility companies were to assemble all their additional emergency equipment in low-lying areas so that it would be protected from the high winds and flying debris associated with hurricanes. This, however, is quite obviously a dysfunctional strategy insofar as floods are concerned. Consequently, the telephone company not only lost 150 trucks in the flood, but it lacked the equipment it needed to mobilize a response to the increased demands for its services as a result of the flood. In other words, the pre-planning was intended to have the manifest result of enhancing the community's ability to respond effectively to future disasters. Instead, however, the existence of a prior plan turned out to be dysfunctional insofar as it had the unintended consequence or latent function of reducing the capability of the utilities to respond to a different type of disaster agent. It is clear that these possible dysfunctional effects of the plans that were developed were neither foreseen nor recognized by the various participants involved. As we shall see, there were likewise several unintended consequences which resulted from the behavior of the mental health system subsequent to the tornado.

Where in the social and human spheres were there effects, how temporary or lasting were certain outcomes, what consequences were intended and unintended, and were the results dysfunctional or not are all empirical questions. But obviously it would be impossible to trace all the social derivations emanating from the mental health services provided in response to the disaster. If for no other reason, our analysis is limited by the ten-month time span of our field work. Nevertheless, the data we have do allow us to spotlight the more salient aspects.

An additional complication is that the disaster occurred at a very crucial time during which major structural and normative changes were being planned for the entire Greene County mental health delivery system. Thus, the effects of these planned interventions and those changes produced by the disaster event are inextricably intertwined. However, it seems safe to assume that this disaster in a changing setting had a greater impact than if it had impinged on a more static situation. A dynamic setting is more likely to be affected by a crisis (Quarantelli, Weller and Wenger, forthcoming). In other studies, DRC has found that major post-disaster organizational changes are more likely to occur if they have some precedence in pre-disaster trends (Anderson, 1969; Blanshan, 1975). We have no reason therefore to believe anything except that the transitional state of the mental health delivery system in Xenia at the time the tornado hit intensified the nature of the social consequences.

Thus, our initial interest in this chapter is sketching consequences for the system and its components as well as the clients served by them, short- and long-run effects, unintended and intended outcomes, and results

which were both functional and dysfunctional. Having established that, we will then be able to look at the needs and demands for mental health services in the Xenia area. At that point, we will be able to match up what the system "did" with what it "should have done."

Consequences for the System

The System Involved

The first set of consequences to be considered are those effects which were observed for the mental health delivery system as a whole. However, before proceeding it is necessary for us to restate and clarify further what we have in mind by the term mental health delivery system. Throughout this report the concept of a mental health delivery system has been used to refer to the aggregate of interrelated organizations engaged in activities geared toward providing mental health care to disaster victims. By using the term system in this way, our focus has therefore been on identifying or "capturing" all of the various organizations which were involved in behaviors which entailed the providing of mental health services following the Xenia disaster. Therefore, there was no a priori classification as to which groups were to be or not to be included as delivering mental health services. The classification was made rather by observing the concrete behavior or activities of various organizations in the disaster setting. We did not take for granted that the mental health delivery system consisted solely of the 648 Board and its contract agencies simply because they are formally delegated the primary responsibility for providing such services in the Xenia area. Nor did we by the use of the term "system" assume that the activities of the various groups involved in delivering these services were necessarily unified and integrated; in fact, the nature of the interrelationship of the organizations that were a part of the effort was another empirical question to be answered by our research. Thus, a final judgement as to which groups and how they related to one another so that they might be conceptualized as a system can only be rendered now.

In utilizing this approach of attempting to identify those groups engaged in like patterns of behavior, we found that components of organizations which were not designated as official mental health agencies did deliver mental health services. That is, by no means were all of the groups providing mental health services necessarily under the supervision of or funded by the local 648 Board. This finding itself suggests that the boundaries of the mental health delivery system are therefore quite permeable inasmuch as the criteria for admission of members into the system are unclear. In other words, there is apparently little consensus regarding the answers to the following questions: what is mental health care; who will provide it; how shall it be provided; and why? (Dinitz and Beran, 1971).

Nevertheless, although it is clear from our research that the mental health delivery system in Greene County is an open system rather than a

closed one, systems, like organizations, do have at least some sort of boundaries that differentiate them from their environments. However, these boundaries are difficult to conceptualize because they are ultimately dynamic (Bertalanffy, 1968). That is, system boundaries are often vague because they vary according to the particular tasks or activities being undertaken. Thus, for example, if we were to attempt to identify the health care delivery system involved in administering emergency medical aid subsequent to a disaster, we would find that the system components would differ in a situation which involved simple first aid as compared to one which required highly technical surgical treatment. In short, what organizations or entities are to be included within the boundaries of a system depend on the research problem at hand.

We were interested in social entities which provided disaster-related mental health services in the Xenia disaster. These could be relatively easily identified. They were all the organizations whose concrete behavior in Time Two involved the delivery of mental health care. Such an approach afforded us the opportunity to examine all of the groups involved in these kinds of efforts, and therefore allowed us to have a better understanding of the range and types of mental health services available to and utilized by the victim population. A number of organizations quite independent of the 648 Board did provide mental health services. In the sense of delivering services, they could be considered part of the delivery system in the Xenia area.

Nevertheless, for purposes of analysis we have chosen to treat as the central core of the mental health delivery system the Greene County 648 Board and its contract agencies, and to view all other groups that did provide similar services as peripheral elements of the more formal system. There are a number of justifications for this. Strictly speaking, the 648 Board by law is supposed to coordinate the bulk of the mental health services delivered around Xenia. Also, for the most part, our research suggests that in normal times the 648 contract agencies do in actual fact provide most such services. Most important of all, the cluster of organizations around the 648 Board and staff in varying ways, both formally and informally, "hang together" as a social entity. The components define themselves as part of a larger entity (i.e., the 648 system). They are regarded as somehow being related by law and common perceptions, and they have a higher degree of interaction with one another and the central board and staff than they do with other groups. Thus, for purposes of understanding and analyzing the actual dynamics of the phenomena, the most "natural" demarcation is to draw, somewhat loosely, the boundaries of the delivery system around the 648 Board and its contract agencies. This recognizes that there were peripheral groups that provided mental health services in Time Two, but avoids including as major parts of the delivery system any organizations which delivered some mental health services in the Xenia area.

It should be noted that this pattern can not automatically be assumed to be always the basis of a delivery system throughout the state of Ohio, despite the uniform existence of 648 Boards. Since Greene County has a dearth of private and quasi-public mental health agencies and practitioners,

this kind of situation in which the 648 Board has a relative monopoly over the delivery of mental health services may, in fact, fall near one extreme along a continuum. At the other end of the continuum would be a large metropolitan area with a rich array of private mental health organizations and practitioners providing a rather large percentage of the mental health services, but outside the context and control of the 648 Board. As said earlier in Chapter III, the mental health situation in Greene County is not necessarily typical of all areas in Ohio, much less around the country. Thus, what should be conceptualized as the actual mental health delivery system operative in a particular locality would have to be established in every given instance. In some cases, the actual mental health delivery system after a disaster might not be centered around the 648 set of related agencies; conceivably, in such instances, they might themselves be peripheral elements. Nevertheless, the situation around Xenia is not that unique and may actually correspond to what might be found in the majority of Ohio counties. One local mental health professional in an interview with DRC said:

The State Department of Mental Health, and this may be true with other departments, writes off small counties. They don't pay any attention to the small counties, but all policies for mental health are made for Cuyahoga, Hamilton, Franklin, and possibly Lucas county. There is almost no realization that there are 88 counties in Ohio and most of them are small counties.

This issue of boundaries is not a trivial one, nor is it merely a conceptual question. As a matter of fact, vagueness of boundaries has significant consequences in the everyday world. For example, even outside of a disaster setting there is a good deal of boundary confusion between the general mental health system and the legal system as to what kind of deviance should be defined as lawlessness rather than as psychopathology, what shall be done about the deviance, and who are the legitimate agents to do it (Dinitz and Beran, 1971). Likewise, recognizing this confusion over boundaries contributes to our understanding of the lack of coordination, the competition and the gaps in and duplication of services which occurred in Greene County following the tornado. To the extent that the delivery of mental health services in response to the disaster involved organizations within different systems and even some groups in two or more systems, critical problems of coordination emerged. The 648 Board has no legal or other authority to control or specify activities for those organizations delivering disaster-related services which are ordinarily linked to or are parts of other systems, such as the health care, social welfare, religious, and even extra-local mental health systems. Thus, in the absence of any formal overall coordinating body or mechanisms, the various deliverers of mental health services were never able to put together an integrated effort. The coordinating unit (i.e., the 648 Board and staff) of the central core (i.e., the contract agencies) of the formal mental health delivery system in the Xenia area had no way to integrate the peripheral organizations.

Furthermore, there were relatively few relationships among the various non-648-related agencies providing mental health services. The groups we are designating as peripheral organizations were not only lacking links to the 648 Board and staff, but also to one another insofar as mental health service delivery was concerned. The duplication of services partly illustrates this. At one time, seven organizations were providing roughly similar outreach services. There were some attempts to bring relevant organizations together in interagency meetings, but not all groups were represented at all times. Few real links seem to have been established and regular meetings disappeared after a while. Even more rarely were understandings reached regarding some common matter, as when Interfaith and the Welfare Department agreed on the paying of welfare clients. Thus, not only was there no overall coordination of the peripheral groups providing mental health services, but there were few exchanges among them, and between them and the cluster of agencies around the 648 Board. In this sense, the total delivery of services was not a system at all.

To be sure, if the criterion of coordination is used as the major defining characteristic of what is to be included in a mental health delivery system, even the 648 service network could not be said to constitute a clear-cut system in this respect. As discussed a number of times already, the cluster of agencies around the 648 Board were not at all well coordinated in Time Two with respect to their disaster-related activities. There was a clear absence of integration as far as the existing contract agencies were concerned, and the two emergent groups, Interfaith and Follow-Up, were not integrated into the formal system for the first six months.

However, the contract agencies were all formally linked to the 648 Board and staff for their regular services both in Time One and Time Two. Furthermore, there was more interaction between these agencies than with those outside of the control of the 648 Board even if some of the exchanges were conflictive in nature. Finally, while the disaster-related services delivered by organizations and groups associated with the 648 Board may not have been well coordinated, there was a fair amount of interaction among the different groups providing the services. Thus, if the criterion of interrelationships is used as the defining feature of a system, there was a mental health disaster-related delivery system core organized around the 648 Board, its existing contract agencies and the two emergent groups linked to the 648 staff.

In summary, in this chapter our objective is to indicate the consequences of the provision of mental health services for the mental health system in the Xenia area. To do this we need to specify the core and boundaries of the system involved. The system can not be equated simply with all of the social entities that provided mental health services in Time Two. The engaging in of similar behavior does not bind organizations into a system. Similarly we can not treat the coordinated and integrated groups involved in the delivery of mental health service as the relevant system involved. Such coordination and integration simply did not exist after the tornado. But we can conceptualize the system as being those

interrelated organizations that did provide mental health services. In the particular case of Xenia this means the central core of the system was the formal cluster of traditional agencies and new groups around the 648 Board, with some non-648-related organizations as marginal elements of the system.

Major Areas of Consequences

In identifying the consequences which the disaster had for the mental health delivery system, it is useful to view the process by which the system was affected in the following way. We assume that in Time One the capability of the system existed in a dynamic interrelationship with the demands upon it, such that the system's capability was relatively equivalent to the demands placed upon it. Although some degree of variance between the capability level of the delivery system and the demands placed upon it had been recognized by various groups in the community, planning was underway to remedy this. Nevertheless, prior to the disaster, the local mental health system had a particular organizational design through which it carried out its tasks in order to meet the existing demands placed upon it.

However, when the tornado occurred, it initially altered the system's capability-demand ratio. While the capability level of the system was itself lessened by the impact and its aftermath, it was also perceived that there would be an increase and change in the demands for services. Thus, the capability-demand ratio was perceived by some key decision makers to be more grossly at variance than it had been in Time One.

In an effort to restore a dynamic equivalence between the system's capability and the types of demands imposed by the disaster, the mental health system responded by making certain adaptations. Along certain lines there were efforts made to restore the system to its capability level prior to the disaster impact. Thus, most of the old and traditional parts of the system essentially struggled to reestablish their pre-disaster patterns of service delivery. This did not involve taking on new or different tasks. Along a second line, there were attempts made to alter Time One service delivery patterns and/or develop new ones and in that way bring into being an additional capability level. This involved established groups taking on new tasks or the addition of new groups to the system. Movement along the first line dealt with old demands; along the second line, with new demands.

Thus, in general, we can think of the disaster event as altering the inputs into the system, and this resulted in (1) responses designed to enable the system to reinstitute outputs that met the demand level before the disaster, and (2) increases in the outputs of the system enabling a handling of the additional post-disaster demands. In either case, we found that this adaptive response of the system to the initial impact of the disaster, in turn, produced certain other indirect or higher order ramifications for the system. In order to understand these ramifications fully, we now turn to an examination of the different kinds of adaptations the system made in Time Two.

There were primarily four major consequences of the tornado and its aftermath for the system. First of all, the components of the system were altered as a result of the disaster response. That is, there was a change in both the number of organizations and groups which made up the formal organizational cluster around the 648 Board, as well as the particular system components or groups which were involved in actually delivering the bulk of the mental health services in relation to the disaster. Secondly, the coordination of the system was affected. In general, although different processes or mechanisms were attempted in order to integrate the activities of the organizations and groups comprising the system, the result was not successful. The third consequence observed relates to changes in system domain which occurred subsequent to the tornado. By system domain we mean the specific objectives or goals of the system and the tasks undertaken to fulfill these objectives (Levine and White, 1961). Or, stated more simply, the domain of a mental health delivery system can be thought of as: (1) services offered; and (2) the population served, both of which in this particular case changed after the tornado. And, finally, the tornado and the activities organized in response to it had consequences for system autonomy. In general, the autonomy or degree of self-determination of the local mental health delivery system was reduced subsequent to the disaster, although this occurred to a greater extent in the short-run period than it did during the longer-run recovery period.

Thus, the most salient consequences or outcomes which the tornado had for the mental health delivery system will be discussed in terms of those changes observed in the following four aspects of the system: the system components, coordination of the system, system domain, and system autonomy. In tracing both those consequences which were intended and recognized and those which were unintended and unrecognized as well as functional and dysfunctional, the temporal distinction between the short-run and long-run periods used thus far will be retained.

System Components. The mental health services provided in relation to the disaster had two primary effects on the components of the system. First of all, there was an increase in the number of organizations or groups which comprised the total delivery system. Secondly, there was considerable variation exhibited in the particular components or groups which provided the bulk of services in relation to the disaster. However, while this general pattern was manifest throughout the Time Two period, the most dramatic change in the system's components which can be attributed to the disaster occurred in the first ten days to two weeks after the impact. We shall discuss this first.

On the one hand, the capability of the system had been decreased by the actual impact of the tornado. On the other hand, there was a rather widespread anticipation that there would likely be a radical increase in demands for services as a result of the disaster. Subsequently, in an effort to obtain a better balance between the system's capability and the demands placed on it, several new components were added to the mental health delivery system during the immediate post-impact period.

The first to be brought in were the various first, second, and third line counseling centers which together with the Guidance Center formed the Three Stage Plan. Although it was intended that this emergent group would provide services to supplement those available through the existing delivery system, the actual consequences of this strategy were rather different from what was intended. What in fact occurred was that the organized effort under the Three Stage Plan virtually replaced the preexisting elements of the local mental health delivery system with new components made up of elements mostly from outside of the Xenia area. In fact, the plan itself, although it included at least one existing component of the local mental health delivery system, represented the emergence of a complex and totally different mental health delivery pattern, with new components designed specifically to respond to the needs of the victim population.

The Three Stage Plan was not the only example of the new components added to or attempted to be added to the system in an effort to cope with the disaster. Plans and efforts were made to bring other extra-systemic groups and organizations, not officially designated as mental health organizations, into the delivery system in varying ways during the short-run response period. Some of these, such as various social service agencies, religious groups, and elements from the medical world were included in organizational meetings held to plan an overall mental health response to the disaster. But others were actually incorporated into the 648 mental health delivery system. The most striking instance of this latter pattern was Interfaith.

While the organization was originally designed to meet the physical and material needs of victims, for Interfaith this was an important indirect means of ministering to the spiritual and emotional needs of the community. By the third week after impact, the efforts organized under the Three Stage Plan had dissipated almost as mysteriously and suddenly as they had emerged. Interfaith was therefore funded by the 648 Board as one of the primary means of providing therapeutic services to disaster victims. Besides Interfaith, another new group was added to the delivery system to offer similar supportive outreach services to disaster victims, i.e., the Disaster Follow-Up Group.

However, while the system was taking on these various new components, on the whole, most of the established system parts or contract agencies did not respond in any organized way during the first weeks after impact. In fact, outside of some sporadic volunteer efforts undertaken by different agency staff members, very few services of any kind, new or old, were actually delivered by the traditional mental health organizations, although some were planned. This is expressed in the following remarks by a contract agency staff member.

If you look at the records you will see that we had a low intake during the first few weeks after the tornado. And many clients called and said they would forego their regular appointments. You know, what we primarily ended up doing in order to respond in some way

was to try to recontact our former clients to find out how everyone was. And very few of them needed our services at that time.

The one exception to this which was discussed previously was the Crisis Center. In its efforts to provide services to victims, this established group shifted its tasks to the offering of general information services, rather than crisis intervention. This was, therefore, the only traditional mental health agency to take on a Type II organizational response pattern during the short-run period.

In summarizing what has been described thus far, a major short-run consequence of the services provided in relation to the disaster was to expand the number of components of the mental health system through the importation of the Three Stage Plan, the bringing in of the clergy through Interfaith, and the establishment of the Follow-Up Group. In addition, collaborative efforts were attempted with other extra-systemic groups, although these were relatively transitory interactions which were inconsequential insofar as altering any of the system's service delivering components were concerned. However, in contrast to these efforts of new groups or system parts, most of the existing mental health agencies played only a minor role in the actual providing of mental health services in the short-run period.

It is, therefore, plausible that the tangential involvement of the established system components with the disaster in the short-run period was an unintended consequence of the bringing in of new and different groups from outside the system to deliver disaster-related mental health services. A few of the contract agencies had actually begun to plan some type of organized response to the disaster even prior to the various coordinating meetings held. With the decision to implement the Three Stage Plan and later to support the emergent groups, not only were the traditional service delivering components virtually replaced by others, but many of the usual coordinating functions of the 648 Board were also assumed by those from outside of the system. This was, therefore, bound to have subsequent effects on the long-term response of the established delivery system components.

We can see the same pattern of change manifested in system components in the long run as we noted in the short run. First of all, there was a further expansion of the number of new components included in the formal mental health delivery system. However, in the meantime, the established components of the system shifted to survival maintenance strategies. That is, rather than attempting to alter their basic goals and tasks in order to offer new programs to meet unmet community demands, the existing agencies instead shifted back to delivering their traditional services. Thus, a second major consequence observed in the long run was the gradual development of a division of labor between those components of the system actually designated to deliver the bulk of the disaster-related services, and those which were offering other kinds of mental health services.

First we shall examine the expansion of the system components during the long-run period. The two emergent groups, Interfaith and the Follow-Up Group, continued to provide their services to disaster victims. However, considerable uncertainty and occasional conflict was manifest over how long these new programs should continue. Some staff members of the established organizations had the impression that both of these programs had been envisioned as permanent components of the delivery system, particularly the Follow-Up Group. Actually there is some indication that this was the orientation of various state officials when funding for the Follow-Up Group was approved, as is indicated in the following remarks of one Xenia area mental health professional.

I can't recall exactly what was said at that meeting, but the state officials seemed to want to institutionalize whatever tornado efforts we got together as being a permanent thing, not to deal with it as a temporary job or temporary person. They kept saying, "Couldn't we think of this in a long-range way?" But it turned out to be just the opposite with the 648 Board and staff. They didn't want to commit themselves to anything permanent, possibly because of the state of transition in which the board was in, in terms of planning services.

Irrespective of what others may have thought, the 648 Board and staff viewed both programs as temporary and special disaster efforts to be phased out within six months after the disaster. The unintended consequence of this debate over the continuation of the new programs was manifest in a general lack of support, supervision, and legitimacy being granted to the Follow-Up Group. Interfaith was in a different position. It had other sources of funding and steadily gained legitimacy, strength, and support in the community. Thus, the controversy had very little impact on the functioning of Interfaith. In fact, six months later, when the 648 Board terminated funds for both emergent groups, Interfaith had decided to further formalize its operations and tasks and to become a permanent organization. At the same time that these two groups were dropped from the system, however, two additional programs were added: the children's mental health program and the emergency support services. Although these agencies were implemented with special disaster funds allocated by the state and were manifestly created to undertake disaster-related service delivery, both had actually been planned by the 648 Board prior to the tornado. But irregardless of that, the pattern of supporting widely variant groups to provide disaster-related services was again manifested.

In examining the long-run consequences for the established system components, we can see what enhanced the likelihood of Interfaith's persistence and the emergence of other new system components. Continuation of new groups and development of additional ones has also been observed in other disasters (Perry et al., 1974). The established elements or contract agencies of the Greene County system, which had been replaced by new components during the short run, soon resumed their usual operations. In almost every instance, these groups returned to their traditional

goals and old patterns of service delivery, thereby exhibiting a Type I organizational response. A few of the agencies, in an effort to expand their activities, added some supplementary paid or volunteer staff members. But these changes were usually transitory and, on the whole, were aimed largely at organizational maintenance and survival, that is, at enabling the group to again achieve goals and perform its old tasks at levels obtained before the impact. In fact, by one year after the disaster it was clear that the disaster itself had been rather inconsequential insofar as producing any significant changes in the actual tasks or programs of the established system components.

However, with the established system components withdrawing their attention from the disaster and shifting to an emphasis on organizational survival, an area of unmet needs was created. These unmet needs, in turn, increased the likelihood of the persistence of Interfaith and encouraged the emergence of other new groups to provide special disaster-related services. In the meantime, Interfaith continued to flourish. Donations expanded and additional clients were serviced. While some of the organization's personnel were still volunteers, there was a paid director and several paid social workers and other administrative staff. In time, and in line with the conscious intent of its leadership, Interfaith began a change of status from that of an emergency group to that of a regular agency with established ties to other local and extra-local state and federal organizations. Thus, the effectiveness and formalization of Interfaith's operations throughout this period eventually resulted in its being brought back in as a contract agency of the 648 Board in April 1975. The amount of power and legitimacy acquired by Interfaith within the community and the mental health system is best exemplified by the fact that of the total amount of funds granted to the 648 Board in April 1975 for instituting disaster-related services, more than half of these were designated for Interfaith.

Not surprisingly, at the same time a series of other new programs were added to the system by use of these same federally-allocated, state-processed funds. While the bulk of the new services consisted of Interfaith's various advocacy services, at least two other new components were brought into the delivery system: one was a mental health program for the Wilberforce community, and the other a summer counseling program to be conducted by the city school system. This continued and reinforced the division of labor that had emerged in the mental health delivery system. New components kept on providing and adding to the bulk of the disaster-related services, with the established organizations persisting in carrying on their usual and traditional operations.

In discussing the long-run consequences for the system components, it is important to note that these effects or outcomes were further reinforced by the dynamics involved in instituting the new pre-disaster-planned, mental health delivery system in the year after the tornado. In other words, the rate of change in the system's components, even apart from the specifically disaster-induced changes, was itself enough to produce a significantly altered environment for the established organizations. As Emery and Trist (1965:21) point out, organizations surrounded by a

"turbulent field" will increase survival-seeking behavior, and correspondingly decrease goal-achieving behavior. Thus, the effects of the response to the disaster and the implementation of the new mental health delivery plan on the established system components were strikingly similar. The influence was the same in both cases.

Yet the actual, though unintended, consequences of the survival reaction pattern by the established system components were not necessarily undesirable for the system as a whole. As it happened, the new plan ideally visualized a diversified network of specialized and non-duplicative service-delivering components. To achieve this, the 648 Board was placing various structural and normative constraints on the task domains of the various established organizations. Thus, the narrowing down of the task domains of the traditional system components resulting from the tornado had the unintended consequences of further facilitating the same trend which was to occur under the new community mental health delivery system.

The response to the tornado also had consequences for another system component, the 648 Board and staff. It similarly facilitated the implementation of the new mental health delivery plan. The emergency time response had made it evident to all that the lines of authority between the board and the staff were unclear. Furthermore, that there was a general absence of effective procedures for administering and coordinating the activities of the various contract agencies was also made equally obvious (but this will be discussed in greater detail in the next section of this chapter). Both matters were in time clarified by the board and staff. Thus, one latent function of the ineffective short-run response of the 648 staff to the tornado was the increasingly powerful role played by the board in decision making, as it moved to more clearly assert its authority and to insist that the 648 staff better handle its affairs. This obviously helped in the reorganization of system components as specified in the plan.

Thus, in summarizing the consequences which the disaster response had for the components of the mental health system, we find that there were two primary ones. First of all, there was a considerable expansion of the number of components comprising the system. Secondly, the components of the system were considerably more diverse throughout the Time Two period than they had been in Time One, largely because of the continuing change in system components which were specifically designated as disaster-related.

Some of the changes in system components were not permanent; however, others were. One of these more durable changes represented the bringing into the delivery system of a group which was not officially responsible for the provision of mental health services prior to the tornado, i.e., Interfaith. In addition, still other programs were added long after the short-run period, some of which were disaster-related and others as a result of the plan implementation. Those resulting from the new plan included residential services for the mentally retarded, a juvenile treatment center, and the Clinton County Mental Health Center which had formerly been a branch of the Guidance Center. Still other agencies, like

the alcoholism program under the county health department, were attempting to get linked with the 648 delivery system. In short, the 648 mental health delivery system was gradually increasing its monopoly and control over those groups and organizations providing mental health services in the community. But it is clear that, in part, this was actually an unintended consequence of the tornado, rather than an outcome which was consciously sought by the 648 Board and its staff. As one agency director remarked about this:

The 648 Board did not try to capitalize on the tornado. I think they did just the opposite. I think they tried as much as possible to stay out of it and to remain inactive and not capitalize. I think the other contract agencies tried in any way they could to be a part of the recovery process and to provide services at first, nearly against the will of the 648 Board. I don't think the 648 ever tried to enhance their legitimacy at all.

However, almost in spite of their own actions at first, the 648 Board increasingly gained recognition and legitimacy in the community, even if that recognition was not always necessarily positive. This unit finally broadened its tasks to include those functions delegated to it by the law. In contrast, their disaster response as well as the implementation of the new delivery system plan encouraged other agencies, such as the Guidance Center, to further shrink their task domains, although for many this did not necessarily imply a decrease in their services, but rather the offering of more specialized services.

Nevertheless, the outcome which the response to the tornado ultimately had on the overall mental health delivery system was both an increase and a diversification of the system's components. In other words, one year after the tornado, the Greene County mental health system offered more comprehensive services than it ever had at any time in the past, not solely as a result of the tornado, but nevertheless facilitated and hastened by it.

System Coordination. The second set of consequences to be considered relate to the effects which the disaster response had for the coordination of the mental health system. By coordination is meant the degree to which the system is able to pursue its objectives in an organized and integrated fashion. Coordination therefore implies an orderly arrangement of group activities such that the domains and tasks of the different sub-units of the system are clarified in order to avoid gaps in task areas as well as to circumvent unnecessary duplication. Coordination is not, however, synonymous with cooperation (Horowitz, 1967) because the interrelationships or linkages between the various groups or sub-units may be partially conflicting in nature. But coordination does imply some type of centralized decision making; and, because coordination must be so central, there needs to be some focal unit in the system where the formal responsibility for coordinating rests. However, this suggests that the obligation

to coordinate requires commensurate authority in order to obtain compliance (Haas and Drabek, 1973:191).

What were the effects of the response of the mental health system on system coordination? There seems to have been two general consequences. During the short-run period, the coordination of the system was considerably reduced from what it was in Time One as a result both of the conditions created by the impact itself and by the response of local and extra-local groups to it. In contrast, during the longer-run recovery period, some increase in coordination was exhibited between various sub-sectors of the system, creating a few clusters of organizations engaging in integrated activities. Nevertheless, these fragmented efforts at coordination did not give rise to any overall increase in the integration of the entire mental health delivery system. If anything, a latent consequence was a sharpening of the boundaries between those groups involved in disaster-related activities and those which were not.

Important in assessing the degree of coordination are the various mechanisms which might be employed to attain some unity of effort and outcome. Thompson (1967) suggests that while there are a variety of ways, most coordination mechanisms or processes fall into one of three general categories. Coordination may be achieved by standardization, i.e., by establishing routines or rules which can be applied to relatively stable and repetitive situations. However, where the task or activity is more dynamic, coordination may occur by a plan which establishes general guidelines and schedules governing the various tasks or activities to be performed. Where a situation is highly variable and unpredictable, and the sequence of activities can not be scheduled in advance, coordination by mutual adjustment is likely to occur. This involves the repeated transmission and sharing of information among all of those involved in the various activities in order to achieve the desired outcome. All three of these general mechanisms or processes were used in varying ways and in different degrees in the essentially abortive efforts to bring about system coordination in the mental health response to the Xenia disaster.

The short-run efforts to provide mental health services led not only to a decrease in general system coordination but had other consequences as well. The 648 Board and staff, despite their legal authority to coordinate, if not mandate, failed to even attempt to coordinate the emergency period mental health response. Given the void, all other but extra-systemic groups were seen as attempting to take the lead in coordinating an organized response in Xenia. There was a series of uncoordinated interorganizational meetings attempting to develop some coordination so that the delivery of mental health services would be more integrated. A major effort, the Three Stage Plan, was mounted but was never really integrated into the local system response. After the collapse of this attempt, there was a period of time when there was almost no leadership in coordinating efforts which had some subsequent consequences for the long-run attempts to bring about integration.

We begin our analysis by looking at the 648 Board and staff, since this is by law the official coordinating group for the local mental health

delivery system. One of the primary functions of 648 Boards in the state of Ohio is to coordinate community mental health programs and facilities which seek state reimbursement. The law delegates this formal responsibility to the boards, but the degree to which they actually exercise this authority and the specific approaches used vary considerably. Furthermore, the legitimacy and prestige accorded the boards by the local community also differs; and this, therefore, affects their coordinating ability and the type of mechanisms they employ to achieve coordination of the delivery system. In many areas throughout the state the coordination functions of these boards, like many other social and welfare coordinating groups, are renowned for attrition between the drawing board and implementation.

Following a pattern similar to other counties in the state, our analysis of the Greene County mental health system suggests that prior to the tornado the 648 Board had failed to assume in any systematic way most of the actual coordinating responsibilities delegated to it under the law. This can partly be explained on the basis of its short history and the resulting lack of visibility and legitimacy in the local community. Therefore, in the absence of strong leadership by the board, there was very little integration shown by the system in carrying out its activities prior to the disaster. This was manifest not only in the gaps in certain services provided and in the duplication of others (e.g., there were three separate drug agencies), but in the relative absence of network transactions between the various agencies comprising the system.

When the disaster struck, it was almost predictable that there would be a carryover of this Time One pattern into Time Two. As illustrated, there was no effort at coordination. There was an unintended consequence of this lack of action. The failure of the board as a group to assume leadership in the first few days in attempting to coordinate the mental health system's response to the disaster set off a chain reaction, as other local and extra-local groups became involved in coordinating efforts.

Some of the attempts were limited in scope. They did not involve efforts to bring about overall system coordination; but on the other hand, they might not have occurred at all if the 648 Board or any other group had generally coordinated the response. The effect that the general lack of system coordination had was partly to give rise to smaller efforts to integrate or to help in the coordination of the activities of different entities. Two contract agencies, Encounter and the Guidance Center, for example, attempted to relate their activities together for a few days after the tornado. The Crisis Center compiled a directory of organizations involved in providing a variety of disaster-related services. The Tri-County Mental Health Association located in Dayton contacted the 648 staff to offer the services of various volunteers from the metropolitan area and to see how they could be integrated into the disaster response.

However, far more important were the representatives from the district and state office of the Division of Mental Health who came to Xenia. They played a much more direct role and their groups could be said to have assumed the lead in coordinating an organized mental health response to the disaster. This assumption of leadership was not the manifest intent of

the organizations; it was a latent consequence of the void in the 648 Board coordination. As far as the district and state people were concerned, their objective was to give the local 648 Board a "shot in the arm," so to speak, by way of providing the various resources, support and incentive needed for the 648 Board and staff to assume the responsibility for coordination themselves. In other words, in spite of whatever unintended consequences may have resulted from their presence, the state and district levels never intended to usurp the authority of the 648 Board. This is expressed in the following remarks by one of these officials:

I feel that to make the maximum use of the agencies that were there and to give them support was what we were trying to do. You don't try to take over their functions, but you're there to be supportive wherever you can be, not by taking the leadership from them, but to keep them in the leadership role and support them in that role because they have the responsibilities for development of ongoing programs later on. And that's why we feel that the 648 was the logical group to really put the responsibilities to for developing a plan.

But in trying to be of assistance to the local community, the district and state officials were themselves at a loss when it came to knowing what types of services were required following a massive disaster. Nor did they know precisely what their own roles should be in relation to the local community in such a situation. Almost like the 648 Board itself, the representatives from the district and state levels were also attempting to assume, for the first time, the program consultation, funding, coordinating, and evaluation functions assigned to them by state law. The exercising of these functions was hindered not only by the crisis situation in which they found themselves, but also by the fact that there were no preconceived or established Time One precedents to guide the representatives in carrying out their intended objectives smoothly and comfortably.

One outcome of this ambiguity of role, as already indicated, was that unwittingly the suggestions, advice, information and perhaps even chance remarks by state and district personnel were often seen by local personnel as an effort to impose some order on what was going on, that is, to bring about coordination. Thus, if anything, the involvement of the district and the state actually had the additional unintended consequence of producing further fragmentation of effort. Who was in charge? No one really knew -- the state, the district, the local 648 Board, the 648 staff, some of the Dayton personnel, or who? (It is perhaps not amiss in this connection to note that DRC personnel in the very early days of their field work during the emergency were given, by various and presumably knowledgeable organizational respondents and informants, the names of at least three different persons supposedly "coordinating" all of the mental health service responses; singled out were an official from the district office, another from a Dayton mental health agency, and also a hospital-associated clergyman!) To some non-involved observers, it sometimes seemed as if there were more groups present who were legally designated as plan-

ning and coordinating bodies in the area of mental health than there were service-delivering agencies. Authority to bring about coordination was not lacking, but as DRC has found in other studies, a frequent problem is not that many groups attempt to "seize power" in a crisis but instead that few organizations will always fully exercise the legal authority that they have (Quarantelli, 1965).

Despite the unwillingness of any group to take the lead overtly, a series of somewhat uncoordinated efforts were undertaken in an attempt to impose some coordination on what was emerging as a very disorganized delivery effort. None of these efforts were actually instigated by the 648 Board (or staff), although all were ultimately carried out either in its name or under its auspices, though rarely under its actual supervision.

The first major attempt to facilitate coordination was a series of meetings held among groups both from within and from outside the formal mental health system in the week after the disaster. However, what went on at these meetings was more the transmission of information by NIMH officials and others, an assessing of capabilities, and a review of what resources might be available than the reaching of any decisions or policies through which the participant agencies and groups could structure their activities in relation to one another. The meetings did not seem to build upon one another and thus failed to fulfill any real coordinating function. The lack of actual leadership in the delivery system continued to stymie the possibility of an integrated delivery effort.

The one major attempt to supply coordination was through the Three Stage Plan. This plan, however, did not emerge from these large meetings, but rather from a more informal session held between various extra-local mental health officials and professionals, with at least one local representative from the 648 staff present. Furthermore, this elaborate plan was not devised so much for its appropriateness in meeting the needs or demands anticipated from the victim population, as it was to deflect the pressure on local personnel by outside officials and volunteers. As one 648 staff member remarked:

I feel the plan came because people from the outside and people from the higher level were wanting us to have a plan. But I never thought people would need this type of mental health service. You know, I never even thought that they would be having any real mental health problems or needs at that point in time. The moment I saw the plan I knew it wouldn't work, but they wanted something down on paper, and they needed a plan to use the volunteers from Dayton. So I guess I kind of ignored the plan and went on doing what I thought was useful in the shelters, even if it had nothing to do with the actual plan.

Quite apart from the apparent irrelevance to many of the services provided under this plan, there were other serious problems with it. The 648 staff and other local people were clearly skeptical about the plan,

so they devoted little energy to its supervision and coordination. In fact, no local group ever really assumed responsibility for implementing this plan. Thus, the volunteers frequently complained about a lack of support and coordination of their activities by the local mental health system, as is stated in the following remarks made by one of the participants.

I would say everybody who gave me feedback felt that we weren't needed and that it was poorly organized. If anyone knew we were there, we sure had no signs of it. Maybe this was because of the lack of organization, or maybe because we weren't needed. But almost a universal response was that nobody over there really seemed to be in charge, and all of the supervision we got was from our own supervisors here at the center in Dayton.

Thus, the effort to achieve coordination through this plan was clearly a magnificent failure. In a sense, it was treated as an alien imposition upon the local system and reacted to as such. No efforts were made to integrate the elements of the plan with whatever other activities were going on or were planned for the local delivery system. The absence of overall system coordination thus not only had the consequence that an effort was made to organize a delivery service from outside and manned primarily by outsiders, but also had the result that it almost insured that the local groups would reject such an alien creature.

Thus, in the short run any overall coordinating mechanism for the mental health system was generally lacking. This led to an actual decrease in the degree of integration or unity of effort exhibited by the system in Time Two from what it had been in Time One. Yet this was as much a function of the abortive attempts to supply coordination by the various groups involved as it was of the actual conditions produced by the impact itself. It seemed as if none of the Time One coordinating groups at the state, district, or local levels wanted to accept the responsibility for coordination, perhaps out of fear that they would usurp one of the other agency's areas of responsibility.

With the absence of any clear-cut group accepting the responsibility for coordination, but with the presence of many who clearly had the legal authority for carrying out this function, the mental health situation, insofar as an organized response was concerned, bordered on chaos. Agencies wanting to institute certain programs did not know whom to approach to get approval for their actions, nor did they know who was supplying the funds or the supervision for the disaster response. This lack of centralized and forceful decision making by some focal unit having the actual authority to carry out its decisions was bound to have later ramifications for the delivery effort. The following remarks made by a staff member of one of the contract agencies a few months afterwards offers an example of this.

A lot of decisions made after the tornado were made quickly and very informally. I was told I could hire somebody on my staff, and was told by the 648 staff and

later by a state official to forget the paperwork, just do it, and get it finished. But then later I began to perceive that there was going to be a hassle about funding and a lot of problems, and I regretted doing it. It was just an oral agreement, which is typical of 648 even before the tornado, to make oral agreements rather than putting things down in writing. But I guess it had not been approved by the board, and they must not have later reacted well to the idea.

Looking at the long run, we find that coordination of the overall system response to the disaster was still lacking during this later period. However, three groups did attempt to provide some type of coordination. These groups differed not only in who, or what organizations, they were attempting to coordinate, but also in how they went about trying to achieve coordination. This is to be expected, for coordination may be arrived at through a variety of ways.

Even in the long run, the 648 Board and staff made little attempt to coordinate the more disaster-related services being provided by their own system organizations and groups, although a major effort was made toward starting to integrate the rest of the delivery services. As already noted, a noticeable division had developed rather early between the part of the Greene County mental health system providing disaster-related services and all of the rest of the system, mostly the older established organizations, delivering all the other mental health services. Although they had been responsible for the creation of the Follow-Up Group and the liaison with Interfaith, the staff provided very little supervision or coordination for either of these programs. Instead, much of the activity of both the 648 Board and staff was directed to future planning for the implementation of the new mental health delivery system. With respect to this, one 648 staff member remarked:

At the end of three weeks, most of the staff went back to planning and operating in a more normal manner, except for the training officer who was involved with the different training sessions. And the board, well, I guess some of them had the general feeling that we shouldn't have even bothered with the disaster at all.

Because of this perceived disinterest by the board in disaster-related service delivery, and because the staff no longer was operating independent from the board as they had been in the short-run period, the staff began to turn its attention away from the disaster. Not only did they, for all practical purposes, leave the two emergent groups to fend for themselves, but no attempt was made to integrate these programs with the rest of the mental health delivery system.

However, at the same time, the board itself became more aggressive in its efforts to coordinate the various contract agencies to be included in the new community mental health delivery system. The mode of coordination employed was not only through the development of the overall community plan speci-

ifying the task domains of the various service agencies, but standardized and uniform rules and guidelines were gradually established for all of the agencies in order to facilitate the administration and coordination of the system. The perspective from the viewpoint of the contract agencies is clearly indicated in the comments of a staff member from one such organization.

Under the new plan a lot of services will be centralized, and it is already starting early, services like purchasing, budget management, program development, physical facilities management, and the general administration of the agencies. Also, 648 is wanting to equalize salary schedules across the contract agencies. Not only is the salary schedule to be equalized, but personnel policies, practices and fringe benefits. I guess by getting 100 percent of our funding from 648, they will have complete control over the affairs of the organizations.

This kind of approach to coordination, as might be expected, met with a great deal of resistance on the part of the established agencies, just as the development of the community plan had in the Time One period. Although from a management point of view coordination by standardization may be a most efficient approach, such standardization involves more rules and specifications for system subcomponents, leading to some hostility being directed toward the coordination agency. Thus, while the board and staff were gradually attempting to facilitate integration and coordination among at least the more permanent elements of the delivery system, the actual results were often quite the opposite, that of introducing bitter conflict within the system. In an effort to offset some of this hostility, the 648 staff held regular meetings among the contract agencies; the negotiations at such meetings at times facilitated an increase in coordination but at other times actually resulted in reduced coordination. This was going on at the very time when virtually no effective coordinating mechanisms were instituted with respect to the emergent groups.

Thus, there was certainly no overall coordination of efforts achieved by the system during the long-run period. Of course, the ineffectiveness of the 648 Board as a coordinating body had become rather obvious to them even during the short-run period of the emergency period. But this early ineffectiveness of the board had the unintended consequence of "beginning to turn the wheels early" for what was inevitably to come when the new community mental health plan was instituted. But still the board and staff's concern with increasing their effectiveness as a coordinating body never manifested itself in any behavior specifically directed toward applying mechanisms of coordination to achieving integration of the disaster efforts with other ongoing mental health services.

There was one other group which attempted to provide some coordination, and that was Interfaith. But the efforts of Interfaith were not particularly oriented toward the integration of the mental health delivery system, but instead toward all the systems or organizations delivering services

in relation to the disaster. Furthermore, the type of coordination supplied by Interfaith was not geared so much toward structuring the tasks or activities that other organizations were performing in relation to one another in Time Two, although this was, in fact, an implicit goal of the institutional advocacy program. The primary goal of Interfaith was to act as a focal unit through which victims could obtain comprehensive disaster services ranging from mental health care to material aid. Hence, coordination for Interfaith literally meant continuity of concern for the victim's needs, regardless of any awkward jurisdictional boundaries acting as a potential barrier to this.

This strategy obviously required a relatively high degree of coordination of its own activities with those of other organizations, and the coordinating process which was employed was typically that of mutual adjustment. Depending upon the exigencies of any particular situation, mutual decisions with other agencies were arrived at either through such mechanisms as informal luncheon engagements, telephone conversations, and ad hoc committees, or through consultations and case conferences with other agencies about a particular client's problem. An example of this kind of coordination was exhibited when Interfaith and the Follow-Up Group, realizing that their services were somewhat duplicative, informally created a division of labor between the two outreach teams.

However, while Interfaith's operations could be viewed as enhancing coordinated service delivery for the disaster victims, Interfaith never functioned, nor was it ever its intention to function, as an overall coordinating body for the total mental health delivery system in relation to the disaster. That Interfaith's action helped to bring about a minimum degree of coordination between itself and the Follow-Up Group was almost an accidental byproduct of its general activities, and would not have occurred if someone else had taken the responsibility of general overall coordination of the mental health services delivered.

Another group which tried to serve as a means for coordinating the disaster response early in Time Two was the Health and Welfare Planning Council. At first it held bimonthly and later monthly meetings of social service, welfare, and health and mental health organizations. On paper this means for coordination had existed in Time One, but had only been revitalized considerably after the tornado. This group actually reached out to the largest number of organizations in its efforts at coordination, going far beyond the mental health delivery system. But, the meetings were not well attended by all organizations (especially by those delivering mental health services). Furthermore, since resolutions passed at the meetings were not binding on the participant organizations, this venture lacked authority and ultimately the power to coordinate the activities of the diverse groups. The technique of mutual adjustment through the sharing of information between the groups involved in order to arrive at solutions to common problems was not too effective in the long run. But again, as in the instance of Interfaith's operations, there were occasional instances of minor coordination achieved between groups involved in providing mental health services. But again this occurred as a result of the default of the local mental health delivery system in coordinating the relevant components involved in providing mental health services.

Thus, none of the coordination efforts by the 648 Board and staff, such as they were by Interfaith or by the Health and Welfare Planning Council, had much effect in integrating the delivery of disaster-related mental health services, whatever other results they might have had. Certain clusters or networks of organizations did interrelate their activities. That is, occasionally there were instances where agencies informally and in an ad hoc fashion linked their efforts, such as the case where the Guidance Center and Crisis Center supplied staff for the training sessions of the Follow-Up Group. However, irrespective of these sporadic incidences of coordinated behavior, the net effect of the types of coordinating mechanisms employed was to produce a rather sharp distinction or division of labor between those mental health agencies defined as delivering disaster-related services and the other more permanent elements of the system. The 648 Board and staff really made no concerted effort to coordinate these two parts of the system. Nevertheless, despite being perceived as less professional in their orientation and as outsiders to the formal mental health delivery system, the two emergent groups, in spite of their initial difficulties, eventually learned to live together quite comfortably. In fact, in its final months of operation, the Follow-Up Group made several referrals to Interfaith.

On the other hand, no such increase in cooperation and integration became manifest among most of the traditional mental health agencies as is indicated in the following remarks made by a 648 staff member.

It seems to me that before the tornado and in the period right after it every agency did its own thing and tried to avoid stepping on anybody else's toes, you know, engendering a fight. And, of course, a lot of people just didn't get services because of that, because everybody was afraid they would get in trouble with everybody else. It sure wasn't that all the agencies were suddenly working together, I'll tell you that.

Certainly contact between the established agencies was increased, and at one point some of the agencies attempted to initiate weekly meetings in an effort to form a coalition or a unified front to present issues to the board, but the agencies found they had too many differences among themselves for this to work. It is notable that for a while some agencies were on better terms with the 648 Board because of their response to the disaster. But whatever momentary and unexpected coordination and cooperation might have emerged between the components of the system was soon eradicated when time drew nearer to instituting the overall mental health delivery system. Agencies were then competing for their existence based primarily on their ideologies and strategies of treatment, and this simply was not conducive to coordinated behavior.

In spite of the lack of any overall coordination manifested in the system's response to the tornado, it is important to note that the failure

to exhibit a coordinated response does not necessarily imply the failure to exhibit an effective response. In fact, a convincing argument can be made for the contention that by coordinating social service and mental health agencies, their effectiveness is reduced (Warren, 1971). For example, the fact that Interfaith and the Follow-Up Group clearly received very little supervision, direction, and interference from the 648 Board or any other group seems to have had the unintended consequence of increasing their effectiveness. Because these two emergent groups were allowed to be flexible and to adapt their structures and services to the demands as they perceived them, they were able to deliver more disaster-related mental health services than any of the established mental health agencies.

Nevertheless, in spite of these functional aspects, the general lack of coordination exhibited by the mental health system as a whole in responding to the disaster had some very dysfunctional consequences as well. Among these were the waste of human and financial resources, the duplication of services, and the existence of some gaps in services needed by the victim population, particularly right after the tornado and most probably during the long-run recovery period as well. The lack of overall coordination was at best a mixed blessing.

System Domain. The "domain" of a system refers to its specific objectives or goals and the tasks undertaken to fulfill these objectives (Levine and White, 1961; Dynes, Quarantelli and Kreps, 1972). In other words, the domain of a mental health delivery system can be thought of more specifically as the goals and ideologies of treatment to which it is committed, the services offered, and the population which it serves. However, the concept of domain provides not only an image of what the system will do, it also serves as a guide to what it will not do. Therefore, through specifying the range and types of activities and interaction which should be performed, a system's domain serves to define its role or boundaries in relation to other systems by ordering its action in certain directions rather than in others (Thompson, 1967). Thus, while most mental health systems would undoubtedly offer some type of counseling services, beyond this there is a considerable range of variation in the other kinds of services delivered and in the population served. Most mental health systems would not, for example, provide strictly medical services to their clients, nor would they supply direct welfare payments to individuals, for these activities would fall within the domain of other institutional complexes. But in between these two extremes there is a whole variety of other services which could be offered, depending on the ideology of treatment, although some of these also border on the services claimed by the domains of another system. Therefore, the domain of a system serves to clarify its parameters or boundaries by answering the following questions: what is appropriate for the system to do; what must be done; what may be done; and what should be done? (Haas and Drabek, 1973:178).

Often the major features of a system's domain are taken for granted. However, in a disaster situation the types of demands initiated by external groups in the system's environment (i.e., suppliers of resources, regula-

tory agencies, users of the services, and competing groups) may be such that the characteristics of a system's domain become problematic. This occurs particularly when the demands or requests for services made on the system are nonstandard, that is, when they are at variance with Time One demand patterns in some respect. There are two primary ways in which demands may be nonstandard. Demands may be nonstandard if they represent a quantitative increase in the request for services which are within the realm of the system's domain, but which it can not meet at a level equivalent to the demands placed on it through its existing or Time One capability. Also, the demands may be nonstandard when they call for qualitatively different services which are generally regarded as falling completely outside of the Time One domain of the system receiving the demand. In either case, if a system responds to these nonstandard demands for its services, and this of course partly depends on how powerful the groups or individuals are who request the services, the response is likely to produce at least a temporary shift in its domain. As we stated in Chapter V, the types of demands made on the local mental health system in the Xenia area in Time Two were perceived as being both qualitatively and quantitatively different than in Time One. Hence, the system exhibited a significant variation in its domain both in its short- and long-run efforts to cope with the perceived and actual demands introduced by the disaster.

We shall first examine the short-run consequences which the disaster had for the system's domain. Because of the indeterminate nature of most information transmitted to the mental health system about the nature and range of mental health problems associated with the occurrence of disasters, little consensus was reached as to goals or objectives of treatment in the first few days after the tornado. In fact, since at times various components exhibited widely divergent or conflicting goals, the system can not be said to have actually devised specific goals. The following remarks of one official reflect this.

We didn't really know what to expect in a situation like this, so for a while we just seemed to be doing what made sense, just trying to be supportive to people in whatever ways we knew how. I guess we all did this in a different way, depending on our own professional competencies. But as far as knowing why we were doing it, or what problems people might have, it was just an intuitive sort of thing.

However, in spite of the clear-cut absence of any agreed upon system goals or objectives, a strategy did emerge, the Three Stage Plan. The goal or ideology of treatment which was implicitly, if not explicitly, guiding this plan was a medical practice model. That is, the services to be provided under this plan consisted essentially of therapeutic treatment aimed at those manifesting symptoms of psychopathology, or, as one volunteer stated it:

The major things that we were looking for were just a lot of crying, breaking down and just sobbing, being hysterically upset, a lot of anger and frustration...

you know, people who were just completely frazzled, reflecting a lot of acute anxiety.

But, according to one of the volunteers: "There were not more than twelve people the whole week who maybe were even as bad off as we expected." Thus, by treating only those victims who found their way into the shelters and who were manifesting more extreme symptoms, very few persons actually received mental health services under this plan.

In the meantime, in the first ten days or so after the tornado, the various existing components of the system, with the exception of the Crisis Center, ceased their operations almost entirely. Subsequently, they delivered very little in the way of any kind of services, disaster-related or otherwise, to anyone. Thus, with the established agencies not providing their usual services, and with the institution of the Three Stage Plan which delivered very specialized services, the range of services provided and the population served by the system were considerably reduced. Therefore, the short-run consequence of this was a general reduction or narrowing of the system's domain over what it had been in Time One. The Three Stage Plan, based essentially on the medical model, represented an abandonment of some of the strategies characteristic of the community mental health orientation, guiding at least some parts of the system in Time One. But this plan had been predicated on a perceived quantitative increase in the demand for medically-oriented mental health services, a demand which was considered to fall within the domain, although not the capability, of the Time One delivery system.

However, the chief long-run consequence of the tornado and the system's response to it was a broadening or expansion of the system's domain. With the onset of activities by Interfaith and the Follow-Up Group, an effort was made to gear up the system to meet qualitatively different demands than those to which it had responded prior to the disaster. More specifically, these two outreach programs were oriented toward prevention rather than treatment, a pattern of service delivery which had not existed in the Time One delivery system. This entailed reaching out to the total victim population in order to have a positive impact on their psychological adjustment or mental health. Nevertheless, the objective or goal of prevention articulated by both programs did not fall outside the domain of a community mental health delivery system. In fact, the system itself was moving toward incorporating more preventive services even prior to the tornado, or, in the words of a 648 staff member:

The trend as far as I'm concerned is to go toward preventative kinds of programs and approaches. I feel strongly that we haven't been really accomplishing a whole lot in the past in just concentrating on treatment programs.

Of course, the actual strategy of prevention employed by Interfaith in producing an impact on the positive mental health of the victim population was, in fact, a nonstandard activity for the mental health delivery system. Interfaith was primarily an emergent social welfare group geared toward supplying financial and material assistance to victims either

directly or indirectly. Clearly the provision of social welfare services falls outside the domain of the Time One mental health delivery system. Thus, the partial incorporation of Interfaith into the mental health delivery system, even more so that the Follow-Up Group, represented a major extension of the system's domain. Yet, the following remarks made by a local mental health official suggest that the ideological basis for this broadening of the system's domain had existed in Time One.

Some members of 648 constantly belittle therapy and treatment. When they talk about mental health services, they talk more about community kinds of things. Like examples are given of, if they're building a housing project without a playground, it is the job of the mental health board to see they put a playground in, because that is preventive mental health.

In the meantime, during the long-run recovery period the established system components resumed their Time One patterns of service delivery. In addition, several new components were added to the delivery system as a result both of the implementation of the new mental health delivery system and the acquisition of additional special disaster funds from the state in April 1974. Most of the disaster-related services in the long run were oriented to the community model; however, some of the more medically-oriented strategies of treatment were retained by established components within the system, such as the Guidance Center, the county hospital, and the county health department. But, as we reported in Chapter IV, the established agencies experienced a decline in the population served in the Time Two period. Nevertheless, the broadening of services offered through the new components led to an overall increase in the population served by the system. Thus, one year after the disaster, the services provided by the mental health delivery system were more comprehensive and reflected a greater heterogeneity of treatment ideologies.

Therefore, the consequences which the system's response to the disaster had on the characteristics of its domain were the following. During the short-run period, the system was geared toward the treatment of mental illness; therefore it was able to serve very few clients. While this did represent a shrinkage in the system's domain, it was nevertheless consistent with the Time One priorities of service delivery. Then, during the long-run recovery period, the system broadened its domain to include preventive services aimed at having an impact on the psychological adjustment or positive mental health of the total victim population. However, through the incorporation of basic social welfare services undertaken by Interfaith, the system broadened its domain to answer to demands that extended far beyond the typical pattern of the provision of service for a mental health delivery system. Concomitantly there was an overall increase in the victim population serviced. This was largely because the system moved further away from the medical model and even beyond community mental health toward a social arrangement involved in meeting broad human and social needs.

How do we explain this shift? In other words, why did the mental health system respond to demands to which it had no claim prior to the

disaster? It is tempting to point to ideology as one explanatory factor. Clearly, there is a growing ideology of activism within the mental health sector. This activism is based on the belief that the mission of community mental health is to respond to all of the human problems, crises, unhappinesses, troubles, and social ills which plague modern societies. By staking its claims in this way, the community mental health delivery system is often likely to extend its activities beyond its own boundaries and into the jurisdictions of other systems, especially when it sees demands which are not being met by these other systems. The response of the mental health delivery system to the tornado involved such an extending of its own boundaries. In an effort to deliver some type of services to disaster victims, the mental health system clearly staked a claim on services or activities of other systems. The ideology behind this was that to the extent that the problems of the post-modern world are boundaryless, the approach to their solutions should be correspondingly boundaryless (Dinitz and Beran, 1971:107).

System Autonomy. The final consequence to be considered is the effect which the tornado and the activities organized in response to it had on the autonomy of the system. By autonomy is meant the extent to which the system is free from the influence of external sources of power. In other words, a system which is self-determining or is not controlled by groups or organizations outside of the system may be said to have an extremely high degree of autonomy. On the other hand, one that is extensively controlled or influenced by elements which are external to it has a relatively low degree of autonomy.

The struggle for autonomy is, to some extent, a major driving force shaping or underlying the interaction of any system with other systems or organizations in its environment. Quite obviously no system aspires to have its activities determined largely by forces or elements external to it. However, any system arises and continues to exist over time only when it provides a needed contribution of some sort to another system or systems in the larger environmental context of which it is a part. Therefore, the activities of any particular system are to a degree both directly and indirectly dependent on the activities of other systems or organizations. If nothing more, a system must at least secure a minimal input of resources from its environment, as well as provide output to one or more sectors of the environment. But through these interactions with other systems or organizations, constraints are placed on the autonomy or discretion of all of the involved systems. Thus, autonomy is limited by the fact of dependence (Hage and Aiken, 1970:98-99).

Nevertheless, in spite of this continuing struggle for autonomy, what a system is or becomes depends in large measure on the interaction between it and its significant environmental sectors. Knowing this, we will examine the nature of the system's transactions with the four major elements comprising its environment, i.e., suppliers of its resources, regulatory agencies, users of the system's product, and competing groups. By examining the type of leverage or basis of power which these organizations or groups had on the discretion or autonomy of the Greene County mental health system in Time Two, it will be possible to analyze the actual

degree of autonomy manifested by the mental health system in responding to the tornado both during the short-run period and the longer-run recovery period.

In the long run, all of the significant elements of the system's environment had some impact on its autonomy in responding to the disaster. However, there was considerable variation in the particular extra-systemic groups which exercised their power and influence over the system in the short-run period as compared to the longer-run recovery period. Clearly, extra-local groups and organizations came into the picture first, with local elements of the system's environment attempting to gain leverage considerably later during the long-run response period. Furthermore, the type of influence exerted by different groups comprising the larger environment varied. This is because the nature of the leverage which these outside groups had on the mental health system was dependent on whether the basis of their relationship and interaction with the system centered around the provision of resources, regulation of the system's activities, competition with the system, or use of the system's products or services.

Turning first to the short-run response of the system, we can see that the autonomy of the mental health system was quite low. The Three Stage Plan, for instance, was originated and supported primarily by extra-local professionals from Dayton working in conjunction with the Tri-County Mental Health Association and by regional and state representatives from the Division of Mental Health. The type of leverage exercised by these extra-local and extra-systemic groups was two-fold. First of all, these groups acted as suppliers of resources by feeding information, money, materials, and personnel into the local mental health system. The effect which these inputs actually had on the system was to generate results or services which were quite often contrary to those sought or desired by local personnel. One example of this was the Three Stage Plan. The following remarks made by a 648 staff member reflect this.

I guess the Three Stage Plan came about as a way to use all of those volunteers pouring in from Dayton. We didn't ever think it was the right way to approach things, but we went along with it because everybody wanted some kind of plan.

That the Three Stage Plan not only failed to be greeted with enthusiasm by the local organizations but was actually resisted by some of its key personnel is not at all surprising. Nevertheless, the mere offering of additional resources, particularly information and funds, most assuredly generated actions by the local system which it otherwise would have failed to take. It is obvious that prior to the input of these outside resources, no effort had been made whatsoever by the formal coordinating body of the mental health system to initiate an organized response to the tornado.

The second way in which leverage was exercised by groups outside the system was through the influence wielded by extra-local regulatory groups. Because of the authority, power, and influence which district and state representatives from the Division of Mental Health had over the system in

Time One, these regulatory groups seemed to be able to dominate the actions taken by the local system during the short-run period. Certainly these groups did not manifestly intend to exercise ultimate control over the local mental health system, nor did they wish to make their own views prevail. However, in spite of the absence of any threatened coercion on the part of the state and district levels, there nevertheless was general consensus regarding the rights and obligations of the State Division of Mental Health to make and enforce certain types of decisions. Consequently, the very presence of these regulatory groups in Xenia after the tornado led to a reduction of the autonomy of the local mental health system. To a degree, this occurred somewhat unwittingly through the actions of both parties, that is, not so much because these regulatory groups actually usurped the power and authority of the local system, but because the local system relinquished it to these groups.

While the actions of these extra-local regulatory groups and suppliers of resources clearly had the greatest effect on the system's loss of autonomy during the short-run response period, there was one local emergent group whose activities also posed a potential threat to the autonomy of the mental health system. To some extent, Interfaith emerged as a potential competing group in that it had an interest in some of the same resources, services and users as the mental health system. However, since the 648 Board quickly moved to bring Interfaith into the formal mental health system, the autonomy of the system was not actually affected through any direct competition between these two parties.

In the long run, as other disaster programs developed, extra-local groups paid considerably less attention to the operations of the local system. Although the state assigned personnel, the responsibility of evaluating the activities of at least the established components of the system, these representatives followed a rather erratic schedule and were able to supply only incomplete data on the activities being carried on. This was partly due to the growing resistance of the local mental health system to perceived "interference" from outsiders, a reaction which is commonly observed among most organizational sectors in communities which have experienced major disasters (Dynes and Quarantelli, 1975).

However, while the state's role in the activities of the local system consistently decreased during the first six months after the disaster, there was subsequently a resurgence of its involvement in the affairs of the local system. This renewed activity on the part of the state centered around the offering of some remaining federal disaster funds to the Greene County mental health delivery system in order to enable it to continue to deliver services to disaster victims. The available funds had actually been allocated to the Ohio Department of Health, but had remained uncommitted. As a matter of fact, the exchange of funds between these two somewhat competitive state departments was itself a rather untraditional act of cooperation.

In spite of what reason the Division of Mental Health might have had in urging an application from Xenia for these funds available from the Department of Health, the offering of the resources was perceived again as

a form of pressure to set up additional disaster-related projects by the local system. The 648 Board responded reluctantly. A proposal was eventually submitted and approved for a second six-month disaster project to be funded by the Ohio Department of Health. The establishment of this new project represented a considerable loss of the local system's autonomy with respect to the administration of the special disaster programs, for it was made very clear that these programs would be closely supervised, monitored, and evaluated not only by the Division of Mental Health, but by the Department of Health as well.

Far more serious than the loss of autonomy experienced by the local system in relation to the state was the increased interest exhibited in the activities of the mental health system by other local elements or groups in its environment when the levy money became available in 1975. This new interest was largely manifest in the form of conflict between the 648 Board and other organizations both within and outside of the local mental health system. The most salient issue of the conflict involved the 648 Board's cessation of funding for the Crisis Center. Arguing that the Crisis Center had been highly effective in its immediate response to the tornado, the critics of the 648 Board objected to its suspension. The following excerpts from two "letters to the editor" published in the local newspaper are typical of the attitude of the Crisis Center's supporters.

I'd like to add my voice to those whose letters appeared in last Saturday's Forum supporting the Crisis Center. Immediately following the tornado, when the Crisis Center had one of the few working phone lines, they went by bicycle and on foot to deliver messages and to get information to other agencies. They also compiled and distributed a concise easy-to-read information sheet listing agency location, phone numbers and services offered to help tornado victims get the help they needed ...The Crisis Center provides a vital service to this community and we must not allow it to be terminated.

(Xenia Daily Gazette, March 22, 1975,
p. 4)

The most striking response which the Crisis Center has made to date was during the aftermath of the tornado. When other local services were in a complete state of disorganization, the Crisis Center was able to operate. Within a few hours the agency was functioning at a rate which was at least 10 times greater than normal. Any group which can survive such a "baptism of fire" deserves to be kept going.

(Xenia Daily Gazette, March 15, 1975,
p. 4)

Had the critics of the 648 Board consisted merely of the personnel of the Crisis Center and a few other supporters, the conflict probably would have had little consequence for the board or for the autonomy of the mental health system. However, the Crisis Center had secured a number of community

influentials as members of its board. For instance, the administrator of the local hospital, the director of the county health department, and an assistant editor of the Xenia newspaper sat on the Crisis Center Board. Thus, the conflict spread far beyond the boundaries of the involved parties.

For weeks the local newspaper carried articles and editorials on the proposed dropping of the Crisis Center. Few of the articles limited themselves to the future state of the Crisis Center. Most instead raised questions regarding the legitimacy of the entire 648 mental health delivery system. For example, more than once there were articles in the newspaper expressing doubt about the legality of the 1973 mental health levy, and other articles questioned the appropriateness of the newly developing community mental health delivery system. Frequently the 648 Board and staff were charged in the paper and at other public forums with using too much discretion in establishing the mental health priorities of the community, and thereby failing to be accountable to the public. The following excerpt taken from an editorial in the local newspaper is indicative of the nature of the criticisms being made.

Suddenly, with all this money, the accountability to the public has been sorely overlooked. At this stage, it would appear (that) inexperience with funds of such magnitude may be principally responsible... But the wonderment and grumbling have increased and may soon reach crescendo. There is legitimate concern that administrators versed in mental health programs may not be equally adept at best shepherding the public dollar.

(Xenia Daily Gazette, March 24, 1975,
p. 4)

The specific issues of the conflict and their relative merits need not concern us here. Rather what is important is the decrease in system autonomy that the conflict displayed. After almost total inactivity and subsequent loss in autonomy in the month following the tornado, the 648 Board had begun to exercise control over both its staff and the contract agencies responsible to it. The tornado experience appeared to have emphasized its absence of effective power, and the board had instituted measures designed to regain the power it had lost to outside groups immediately after the tornado.

This new posture, however, was in time perceived by organizations and groups in the system's environment as indicative of a lack of concern or interest in the opinions of taxpayers and other groups to which it was responsible. For the first time, the County Commission, one regulatory group which in the past had exercised little authority and influence over the mental health system, attempted to force the 648 Board to reconsider its decision to drop the Crisis Center. Underlying this clearly was a much larger issue as is reflected in the following remarks made about the 648 Board by one of the county commissioners.

You talk out of both sides of your mouth when you claim your accountability to the citizens and concurrently claim no accountability to their elected representatives (i.e., the county commissioners).

(Xenia Daily Gazette, March 17, 1975,
p. 9)

Furthermore, potential competing groups who were interested in some of the same resources, services, and users as the mental health system became heavily involved in the conflict. For example, a few weeks prior to the appearance of the newspaper articles, several Xenia physicians had met and expressed opposition to the community mental health model which had come to dominate the mental health system. At another meeting of various representatives of health and social service agencies, the following remarks were made.

If we in the field can't understand the plan, how can we interpret it to others? Health agencies have had no input into the 648 plan, and the plan is already frozen.

These questions being raised about the appropriateness of the new delivery system by various competing groups represented still another threat to the autonomy of the mental health system.

The clients or users of the services of the system did not remain silent in the conflict. Many voiced their opinions through the newspaper in a series of letters to the editors spanning over a month's period of time. Moreover, since the primary source of the system's funding under the new levy was through tax dollars, the users of the system's services were also, to a major extent, the suppliers of most of its financial resources. Not infrequently was the threat of actually withholding funds from the system made in an effort to bring about the desired result of reestablishing the Crisis Center. The following excerpt from an editorial in the daily newspaper is typical of the way in which funding was used as a weapon of conflict.

The accountability is now. Five years at nearly \$900,000 annually equals \$4.5 million. That's a lot of "mental health" and should sober the responsible into realizing the necessity for explaining the why's and wherefore's. Tha taxpayers' faucet could go totally dry, God forbid.

(Xenia Daily Gazette, March 24, 1975,
p. 4)

Clearly what has been said thus far demonstrates that the tornado and its aftermath had significant consequences for the autonomy of the mental health system. In the short run, the system's autonomy declined considerably as a result primarily of the activities of extra-local suppliers of resources and regulatory groups. However, the influence of these groups over the system decreased within a few weeks following the disaster. Concomitantly, the board gradually began to exercise greater

authority in establishing the priorities for mental health care in the community. At the same time, the 648 delivery system was increasingly adding new components and gradually gaining a monopoly over all of the organizations delivering mental health services in Greene County. It was perhaps only a matter of time, therefore, that such a posture was challenged. But this time, the challenge to the system's autonomy was made by local elements in the system's environment who increasingly attempted to exercise constraints on the discretion of the system.

Of course not all of the loss in the system's autonomy resulting from the leverage exercised by local regulatory groups, suppliers of resources, competing groups, and the system's clients can be attributed to the disaster, since the larger process of change occurring within the system no doubt contributed to the conflict as well. However, the tornado and its aftermath affected the system's autonomy considerably even during the longer-run recovery period. It was the system's ineffectual response to the tornado which contributed to the actions taken later by the board to increase its autonomy. Furthermore, the Crisis Center's performance after the tornado repeatedly provided an issue around which critics of the mental health system could rally.

In short, one year after the tornado, the system's autonomy still remained far less than it had been prior to the disaster. Yet one of the major tenets of the community mental health approach is the idea of "community control," that is, that the mental health system should not be self-determining, but should operate on behalf of and in response to the community it serves (Bloom, 1973:2). But this was not the only functional though unintended consequence of the system's loss of autonomy. There is no question that one year after the tornado, the visibility and notoriety of the mental health system was, as a result of the same factors that cost it its autonomy, far greater than it had been before the tornado struck.

From our discussion thus far, it is clear that the mental health system's organized response to the disaster was complex and that the response, therefore, had a considerable impact on the system itself (Weller and Kreps, 1974). Major facets of the system were altered by its efforts to cope with the tornado. In general, the consequences of the tornado response for the Xenia mental health system may be characterized as follows: an increase in system components and system domain, and a decrease in coordination and system autonomy. Furthermore, these shifts or changes reinforced each other, thereby making them even more consequential in the aggregate. Thus, in a broad sense, the adaptations produced by the disaster in combination with the planned changes introduced by the 648 Board acted to alter the basic character of the mental health system throughout the Time Two period.

If the characteristics of the system changed so markedly, then this was bound to have consequences for the users of the system's products or services. After all, the providing of some type of mental health services to some client population is the manifest purpose for which the system exists. Clearly, any major intended or unintended shifts in the system's characteristics would subsequently have implications for the users of the

system's services. For example, the increase exhibited in the number and diversity of system components was consequential for victims. By expanding its size and diversifying its elements, the system was potentially able to serve a greater client population. However, in spite of this, the system's lack of coordination resulted in its being inefficient in its pattern of service delivery. Often two agencies unwittingly provided similar services to the same individual, while completely overlooking the needs of others. In fact, an unintended consequence of this lack of coordination was evidenced in the fact that occasionally victims registered complaints about being bombarded by the various outreach teams.

Furthermore, changes in the degree of autonomy exhibited by the mental health system in relation to its environment had a significant impact on the system's output, i.e., the services it provided to the victim population. To be more specific, the system's short-run loss of control to extra-local groups led to the establishment of service priorities shaped largely by the demands as they were perceived by higher-level and extra-local mental health professionals, rather than by the actual demands or needs as expressed by the victim population. However, while it was, of course, believed by some that these services were consistent with the actual needs of the victim population, the services produced as a result of outside pressure on the local system were mostly irrelevant and sometimes contradictory to the actual mental health-related needs of the victims. The final system characteristic which changed markedly was the domain, since the system's attempt to respond to the perceived needs of disaster victims activated major shifts in the services it provided and the population served.

To conclude, while the domain-relevant characteristics of the system seemingly appear to be most consequential for the client population, changes in all of these aspects of the system, i.e., its coordination, autonomy, components, and domain, all affected its capability to deliver services to disaster victims. Furthermore, all four facets of the system were so inter-related that changes in one tended to activate changes in others. For example, concomitant with the shrinking of its domain, the system experienced a serious loss in its autonomy, its lowest level of coordination, and the replacement of its established pre-disaster components. In combination, the major ramification of these patterns of change in the system's characteristics was to produce a very different output to its target population. At this point, therefore, we shall turn to a more detailed analysis of the effects which the system's output or services had on the mental health-related needs of the victim population.

Consequences for the Victim Population

What actual consequences or effects were produced for the victim population by the mental health services delivered in relation to the disaster? Or, in other words, what real impact did the system's efforts have on the mental health needs of those persons that experienced the tornado? The answer to this question could be approached from a variety of vantage

points. But no matter how we proceed, it is easy to recognize that the answer to this question pertains essentially to the effectiveness of the mental health system's response to the tornado. We shall address the matter of effectiveness first and in considerable detail.

Conceptualization and Measurement of Effectiveness

There is no one all-purpose methodology which can be applied in evaluating the effectiveness of the services provided by the system in relation to the disaster. There are, in fact, many possibilities ranging from simple measures of the total number of clients served to indicators of client satisfaction with the services they received to more complex indices which combine various types of criteria. Ultimately, however, any evaluation of a system's effectiveness is dependent, of course, on the particular criteria used to make the evaluation.

Generally, the concept of effectiveness refers to the extent to which the activities undertaken by an organization or system produce the intended or expected results. In broad terms, the outcome or result sought by the system in responding to the tornado was to meet the disaster-related needs of the victim population by providing various kinds of mental health services. One obvious and frequently used method of determining whether or not a system is, in fact, effective in accomplishing such a goal is to measure the total number of clients it serves. But there is a very major flaw underlying this approach. To be specific, it tells us absolutely nothing about those people who might have had mental health needs, but who did not come to the attention of the system either through seeking its services or through being sought by the components of the system. At best, therefore, this measure is only a very crude indicator of the nature and incidence of mental health needs of the population and, thus, of the effectiveness of the system's operations. In fact, all that is really measured is the extent and nature of the demands made on the system for mental health services.

We took a different point of view. We assumed that the most valid measure of the local system's effectiveness in providing services to disaster victims would be one which not only measured the demands for services, but also tapped the actual mental health needs of the total population involved. Information or data on the latter point would allow us to determine the degree to which the mental health needs exhibited by the population in the Xenia area were, in fact, met as indicated by the actual demands made on the system for its services. In other words, we can assess how effective the system was in reaching those who had some type of mental health-related problem when we can match the nature and extent of the mental health needs with the nature and extent of the services delivered.

In taking this type of perspective, the effectiveness of the system's operations is measured by the amount of congruence or discrepancy between the services it provided and the needs actually exhibited by the victim population. If, for example, we discover that the mental health needs of the population were either qualitatively or quantitatively at variance with the types of services provided by the mental health system, we have reason

to suspect that the system fell short in its efforts to bring about an impact on the mental health of disaster victims. The converse, of course, would also be true.

An evaluation of the system's effectiveness based on the above criteria requires data on the two basic dimensions to be compared. These, as noted earlier, we conceptualize as demands and needs. "Demands" has reference to the requests made on the system for its services, i.e., the extent to which various types of mental health services offered by the system were actually utilized by the population. In contrast, by "needs" is meant the nature, range and frequency of mental health problems actually exhibited by the victim population. Since it is through the comparison of these two dimensions that we evaluated the system's effectiveness, multiple and independent measures of needs and demands were obtained. In the next two sections we discuss the operational definitions we used to measure the phenomena of demands and needs.

Demands. System demands are defined as external requests or commands for the services offered by the system. The notion of system demands, however, is not as straightforward as it might appear. Instead, it is a rather complex and abstract concept which can include a variety of behaviors. For example, we have suggested that demands need not be actual, but they may be perceived or self-imposed by members of the system itself. In fact, we used the concept of perceived demands earlier, and it proved useful in understanding the conditions responsible for the actions taken by the system in response to the tornado. However, in assessing the consequences of the system's response for the victim population, we shall be interested only in the actual demands or requests for services made on the various organizations and agencies involved. Measurement of these demands will, therefore, provide us with an operational definition of the quantity and quality of services delivered by the system.

It is also clear that at any particular point in time the demand level within a particular system may vary considerably among its different sub-segments. Some groups or services may be subjected to demands considerably more than others. This suggests the necessity for classifying the various types of demands and the concomitant system requirements. In other words, there may be a good deal of variation in the demand levels for the different types of mental health services provided by different components of the system, such as clinical treatment, prevention programs, etc. Thus, in order to assess not only the quantity of services delivered, but the quality as well, it is necessary to classify the demands on the basis of the major types of services which were provided by the system in relation to the disaster.

The services provided by the system could be classified in several ways. We have chosen to distinguish them on the basis of the criteria which will contribute the most to our understanding of both the needs and the demands in the situation. In general, the system geared its services in varying degrees to respond to three basic types of problems that disaster victims were expected to exhibit: mental illness, mental health prob-

lems, and problems in living. Therefore, we attempted to obtain and classify the data we gathered on demand levels according to these three dimensions.

There is, of course, little agreement and considerable debate as to the definitions of the three terms -- mental illness, mental health problems, and problems in living. We shall address this problem later on when we discuss the needs of the victim population. In measuring demand levels, we are more concerned with determining which types of services delivered by the system address which of these three mental health-related needs of the population. By categorizing the system's components according to one of these three images of "health and disturbance" we will, therefore, be able to ascertain the demand levels for services geared toward mental illness, mental health, and problems in living.

Taking into account the vast range of meanings attached to the use of these terms, it seems logically absurd to expect that any overall consensus would develop after the disaster as to which of these types of problems victims might be expected to exhibit. However, it is clear that at first it was perceived that the tornado would evoke mental illness among the victim population. Through the use of quotations, examples of this expectation were given in the last part of the second chapter of this report. This expectation was not always verbally expressed in specific mental health terms, but the types of symptomatic behaviors usually sought among Xenians in Time Two were based on the assumption that there would be widespread mental illness among the victim population. Thus, the system responded with services geared toward the treatment of mental illness. It developed a medical framework (The Three Stage Plan) to remedy the problem. That this plan was predicated on an underlying assumption of widespread mental illness among the population is reflected in the remarks of one psychologist describing the plan:

The old medical model is MD, RN, social worker, psychologist. The way the thing was set up was in case we found someone walking in who we felt needed more intensive care, medication, or evaluation for medication, or possible hospitalization, we were to refer them to the team that was over at Greene Memorial. Then there would be an RN who, if needed, would administer an injection or an MD to write prescriptions for medication, or say "hospitalize the person." Then they could be admitted to the hospital in Dayton or to Greene Memorial, or to whatever resource we had available.

However, from the outset, not everyone was in agreement that the types of problems which victims would be likely to manifest would be symptomatic of mental illness. In time, the system as a whole even came to perceive the problems of the tornado-affected population in a different way. Some degree of consensus developed that most of the problems of victims would fall into the categories of mental health problems or problems of living. Concurrent with this, the system's service priorities changed,

and the emergent groups were established to provide services geared toward remedying these types of problems. Although the techniques and strategies employed by the groups providing these services varied considerably, these services were never guided by a medical framework, nor were they aimed at the treatment of mental illness. One of the mental health professionals working with the Follow-Up Group states this very strongly in the following remarks.

I guess that there's a certain amount of emotional distress that is normal for one to experience as a result of a disaster. I would not want to categorize that as being mental illness. I think it can be perceived by the person as an unusual stress caused by circumstances which aren't usual, and we don't usually experience those kinds of emotions. But I would not call it abnormal. It is a normal response to a stress situation. Now it is entirely possible that such people experiencing normal stress to an emergency situation can benefit from some kind of mental health services. But I would not want to call them mentally ill people.

There was, however, a difference in the operating strategies and underlying assumptions of those groups who were providing mental health services, and those who were providing a broad range of human services. The mental health services were more specifically geared to the early detection and treatment of emotional and behavioral disorders or symptoms as is expressed in the remarks of one local professional:

We were trying to quickly identify some individuals who were having something other than minor kinds of stress reactions, and trying to do some quick crisis counseling or intervening in the situation to help them work things out. We were really dealing with prevention kinds of things with a "normal population," trying to increase their ability to deal with their feelings, to deal with frustrations and so on. We were trying to find some problems, but they were minimal problems, that could be nipped at the bud, you know, before they developed into more severe ones. That's the kind of thing I felt we were doing. We were asking a lot of questions about tangible needs but trying to keep a sensitive eye to signs of stress with people who really overall were having difficulty settling back down. Then we were trying to provide them some quick supportive kinds of services and quick intervention kinds of services that would help them hopefully work through their feelings and reactions and get them back on the right track again. We wanted to let them just verbalize some feelings and tell about the experience they had had in hopes that, by telling, that it would relieve some of the anxiety and fear.

But some groups went beyond the provision of crisis counseling and emotionally supportive types of services, supplying even broader human and social services. Typical of what these groups did are the kinds of activities enumerated below by one mental health worker.

Sometimes maybe giving them a stove, or giving them a week's worth of food was the best way to handle the emotional problems. Sometimes being overwhelmed by a financial problem or a material assistance kind of problem puts you over your limit and things get blown out of proportion. Where am I going to get food, or how am I going to take care of this or that? And maybe the person is pretty stable ordinarily, and a lot of times if you go in to meet the material assistance kind of problem or the informational kinds of problems, you solve what's bothering them. If you go in with the attitude that everybody needs counseling or everybody has a defect in decision making or coping, I think it will take too long to get at what they really need. Sometimes a person is really upset, but maybe it's because they're concerned about where the food's going to come from, not whether they have a weak ego or something like that. So you really have a situation that can be handled differently. So perhaps it's a combination of counseling and meeting the other needs.

On the basis of what has been described thus far, it is not at all difficult to classify the emergent groups according to whether their services were geared toward mental illness, mental health problems, or problems in living. However, with respect to the established agencies, the classification is a bit more difficult. The differences in orientation do exist, but in some cases they are more subtle. Several factors account for this.

Just as there is no absolute consensus among mental health professionals regarding the phenomena indicated by the terms mental illness, mental health problems, and problems in living, there is likewise little agreement as to the most effective techniques or strategies which ought to be employed to ameliorate or solve these various human problems. For instance, some of the same strategies utilized in the treatment of chronic mental illness are also employed in the treatment of what are usually thought of as mental health problems, like the use of tranquilizers and various other drugs. In other words, a good deal of the problems which usually come to the attention of mental health professionals are defined and established on non-medical, i.e., social, legal, or ethical, grounds. Yet remedial action is often sought through medical action or therapeutic treatment aimed at ameliorating the underlying disorder or "illness" responsible for the client's symptoms. This is a covertly medical framework (Szasz, 1960). As a matter of fact, we found this type of conflict in the Xenia setting between the ideological justifications or grounds for treatment and the actual strategies of treatment employed. Sometimes agencies clearly stated that the objective of their services was to increase the positive mental health of

victims, but the techniques employed in producing this outcome were sought through either a medical or covertly medical therapeutic framework. The following remarks of a social worker suggest such a discrepancy.

I don't like to use the term "mental illness." I prefer the word "mental health." But I did see some people who had mental health problems. Maybe 10 or 12 altogether. But they didn't really differ radically from the type of people who come here usually. The disaster just seemed to have brought to the surface underlying personality or emotional problems that were there all along, before the disaster. Otherwise they were more coping individuals, defending themselves. But their defenses just broke down when the disaster hit, and these underlying problems came to the surface. The disaster was just a turning point for seeking treatment which these people had needed for a long time prior to that. So the therapy I used was pretty much the same as usual. I would attempt to get at the source of their problem. And sometimes, if it was necessary, I would get the doctor to write them a prescription to help alleviate any unpleasant symptoms they were having.

However, in spite of the disjunction between the ideology of treatment and the strategies employed in the treatment, it is nevertheless possible to make a rough categorization, along three lines, of most of the services delivered in Time Two in Xenia: (1) services geared toward the treatment of mental illness, i.e., those relying primarily on medical or covertly medical frameworks; (2) services aimed at increasing the mental health or positive psychological adjustment of disaster victims, including primary, secondary, and tertiary prevention programs; and (3) those programs aimed at delivering a broad range of human and social services. There was, of course, some overlapping in the techniques or strategies employed by the various agencies or groups, in spite of the fact that they viewed their underlying objectives differently. Furthermore, there was rarely ever total consensus within a particular organization or agency with respect to either the model of "health and disturbance" applied or the treatment strategies employed. Nevertheless, because the Greene County system is rather highly differentiated and task specialized along these lines, our categorization of the services according to these criteria does not radically distort the reality of the situation.

Following upon this qualitative distinction between the types of services offered by the system, three sources of data were used to measure the relative quantity or amount of these services provided to the population. First of all, we gathered objective case load data on the actual demands for services met by the various agencies. However, we were not as interested in determining the total number of clients served by the organizations as we were in making a comparison of the demand levels in Time One with those in Time Two, at least for those organizations which existed prior to the tornado. Thus, by comparing the case loads of the organizations for the

twelve month period prior to the tornado with the twelve month period after the disaster, it was possible to have some baseline data to which the post-disaster demand levels could be compared. Secondly, we gathered subjective assessments from the professional staff and volunteers of the mental health organizations about the quantity and quality of services demanded from them. This was used to supplement the case load data or as a substitute measure when the objective case load data was not available. Thirdly, victims were asked to report their post-disaster contact with agencies in the Interfaith-DRC survey, thereby giving us subjective data on the demand level from the perspective of the users of the system's services.

Using these three different sources and types of data we were, therefore, able to determine the actual quality and quantity of demands for mental health services met by the system in responding to the tornado. But, before turning to the findings, it is necessary to indicate how we measured the actual mental health needs of the population.

Needs. The concept of needs refers to the nature, range and frequency of mental health problems exhibited by the total population. In order to determine whether or not the services provided by the system effectively met the actual mental health needs which victims had, it is necessary to indicate the particular nature of these needs. We shall, therefore, make the same gross distinctions between needs related to mental illness, mental health problems, and problems in living as we made earlier when we characterized the nature of the services demanded by the population. We recognize, of course, that the conceptualization and measurement of mental illness, mental health, and related notions are matters of considerable dispute and controversy. However, in spite of the conceptual and operational difficulties, there were several important factors which led us to distinguish the phenomena along these lines.

First of all, our interview data do indicate that a majority of the mental health practitioners do make operational distinctions between mental illness, mental health problems, and problems in living. As a matter of fact, while over 90 percent of the respondents we interviewed expressed negativism toward the term "mental illness," over 75 percent of them nevertheless made these distinctions implicitly when they discussed the criteria which they employ on an everyday basis in the treatment and classification of various types of disturbances. Thus, in spite of their avoidance of the term "mental illness," most of the respondents separated mental health problems from the more severe behavioral symptoms and chronic pathological disorders, such as schizophrenia and other forms of psychosis. The following remarks made by one mental health professional are typical of the definition of mental illness offered by most of these professionals.

Well, I like the term mental health. I don't like the term mental illness. I like to speak mainly in terms of positive mental health and negative mental health. In the past we did talk about people either being mentally ill or normal. If a person is mentally ill, it means they're showing symptoms of psychological disturbances, being severely depressed, severely anxious;

in extreme cases maybe hallucinating or being delusional, thinking somebody was after you, this kind of thing. Or you were normal. Now we are beginning to expand our views a little bit and to think in terms of not just being normal people, but of having positive mental health or negative mental health. But sometimes I still wonder if the two are really opposites, or if mental health and mental illness are really different types of concepts.

Therefore, in most cases, and with very few exceptions, a relatively sharp demarcation was drawn between "mental illness" and "mental health problems." Furthermore, many of our respondents clearly stated that those behaviors which they classified as more severe were likely to be physiologically based, an assumption which is clearly consistent with traditional notions of mental illness.

The term "mental health problems" was in general used by respondents to refer to multifaceted phenomena including such things as general unhappiness, social maladjustment, minor neuroses, social and behavioral problems like alcoholism, juvenile delinquency, drug use, and other symptoms of impairment in social functioning. However, in broad terms, mental health problems for most professionals indicated difficulties primarily associated with the lack of positive psychological adaptation or adjustment of individuals, rather than the presence of some underlying disease process. For example, one mental health professional defined mental health problems as follows:

I would consider a person to have a mental health problem if they're not functioning well in whatever obligations or roles they have to perform, or if they stop eating or are not eating well, and not sleeping, they're not functioning well. Or it may be that a person has lost his job, or has some kind of marital or family problem, or a death in the family which they can't cope with. And then you just feel you better move in and offer them some help.

Yet problems of mental illness and problems of mental health still do not capture the full range of human services sometimes handled by mental health agencies, particularly those operating with a community mental health ideology. We have chosen to label this other category of human needs "problems in living" (Szasz, 1960). The phenomena referred to by our respondents which we shall subsume under this concept were multifaceted, including almost every ailment or malfunction which plagues individuals in modern society, whether it be biological, economic, political, psychological, or sociological. The primary source of these human problems was usually articulated by the majority of practitioners as lying outside the individual and in the social setting, and this led most to declare the necessity of innovative and untraditional strategies in their amelioration. For example, the remarks of one Xenia area mental health professional reflect this:

Most of the mental health problems I encountered were cared for when the physical needs were cared for. I don't regard mental health problems as anxiety over terrible loss. This is not a mental health problem. It is a problem, but it's of a very short duration, and it's very real, it is not a fantasy. It's a real problem that people face. And they're real to them. It is not a matter of digging back into their past to see why they're behaving that way. It's very practical kinds of services which aid people in terms of their mental health, like getting them transportation if their car was destroyed, or a wheelchair that was lost in the storm, or helping them move or return to their homes, or giving them a small loan to buy a new refrigerator or a pair of glasses lost in the tornado.

And I think help, let's say therapeutic benefit, could be derived by a worker who is helping someone fill out forms to recover loss, if that worker would have some knowledge of the type of stress to expect from the victim. I mean it's the hassles produced by all the red tape a victim has to go through that causes half of his problems anyway. So it doesn't need to be a mental health worker to sit down and do psychotherapy to allow this person to benefit from the crisis situation. But they would need to know how to decide if the person should be referred to mental health workers if the stress was particularly great.

Almost all of the statements and definitions offered by mental health practitioners support the notion that the gross distinctions we have drawn between mental illness, mental health problems, and problems in living are not the result of mere theoretical exercises. The distinctions instead partly come out of their relevance to the criteria offered by those who usually categorize and handle these types of human needs in their everyday work. Therefore, the second, and perhaps the most important reason for differentiating these three types of phenomenological entities, is based on the significance these definitions have in explaining the particular activities undertaken by system components in responding to the disaster in Xenia. Clearly, these ideas and images about the specific nature of the mental health needs of victims underlay and were associated with the particular remedial efforts employed by the system after the disaster.

The third reason for distinguishing mental illness, mental health problems and problems in living from one another is based on more theoretical grounds. The meanings and usages attached to each of these terms taken singularly suggest multifaceted and perhaps even multidimensional phenomena. Looking first at the concepts of mental illness and mental health, it is clear that these two terms are used somewhat complacently as shorthand expressions for certain types of human behavior. But, when it becomes necessary to ask "what kinds of behavior are indicative of mental health and mental illness, why, and according to whom," the answer to this question

becomes a matter of conceptual predilections rather than empirical fact. In other words, mental illness is not really a thing which exists in the way that many other things exist, but only in the sense in which other theoretical concepts exist (Szasz, 1960).

Thus, since the conceptualizations of the phenomena often bear little resemblance to one another, the operational definitions or empirical criteria utilized to identify the phenomena are likewise divergent; they range from social maladjustment and subjective unhappiness to psychiatric diagnosis, objective psychological symptoms and failure of positive adaptation. Subsequently, it is hardly surprising that various studies employing two or more of these criteria of mental health and mental illness tend to yield only moderate, but not impressive, interrelations (Weschler, Solomon, Kramer, 1970). These incompatibilities are increasingly explained by the very convincing argument that mental health and mental illness constitute multidimensional phenomena (McQuitty, 1954). If this is the case, then mental health and mental illness can not be thought of as representing opposite poles or even different gradations along the same continuum. There is, for example, no convincing research evidence to date that suggests that what are typically referred to as mental health problems do, in fact, develop into more serious pathological disturbances if they are left unattended (Vonnegut, forthcoming). Furthermore, there is thus far little indication that the sources of or the factors responsible for each of these are the same.

In a similar way, in the way we are using the term, the notion of problems in living also has reference to multidimensional phenomena. The only apparent consensus among the professionals we interviewed about these types of problems was of a negative sort. They agreed that the source of difficulties involved in problems in living could not be thought of as lying within the individual, nor could they be treated as if they were. So in a way, this term -- problems in living -- is used as a residual category, to refer to difficulties which are related to mental health, but which include a much broader range of human needs.

Thus, if all of these terms -- mental illness, mental health, and problems in living -- even taken singularly do not refer to a unitary entity or process, any attempt to lump them all together would likely produce an unfruitful grouping of basically different phenomena. That kind of approach would, therefore, offer very little insight into the nature and incidence of anything we have been interested in examining in our study. It could hardly add anything to our understanding of the practical problems of the delivery of services by systems designed to deal with mental health problems.

Our separation of these three types of human problems and disturbances for purposes of analysis, however, does create some measurement issues. Most measures typically utilized rely on different viewpoints about how the phenomena should be conceptualized. We have chosen to employ multiple measures or operational definitions. Many of the measures we employ are based on different criteria and subsequently are open to criticism along particular conceptual and methodological lines. As such, we would not wish to defend any one particular measurement or the findings drawn from one

measure alone. However, by using a variety of measures predicated on different theoretical definitions of the phenomena, it is less likely that our findings will be explicitly tied to a single image of any of the three conceptualizations discussed. Furthermore, if we arrive at consistent findings through divergent measures, we can have greater confidence in the results we obtain. We shall now briefly describe the measures used and the various definitions of mental illness, mental health, and related notions explicit in each.

Operational Indicators. Both subjective and objective criteria were employed in the measurement of the nature and frequency of mental health-related needs among the population. The rationale behind the use of subjective criteria is as follows. It has been maintained by some that a major indication of need for mental health services in a person's own subjective feelings about his or her well-being. Furthermore, there are studies which indicate that subjective criteria of mental health and mental illness do correlate somewhat with independent psychiatric diagnoses (Downes and Simon, 1954; Rogers, 1951). Therefore, subjective measures which were designed to tap a person's own feelings about his or her emotional and psychological well-being were included in the Interfaith-DRC survey. Of course, there are those who argue that this measure is subject to distortion by defense mechanisms and is as much a function of intolerable living conditions as it is of the psychological state of the individual (Jahoda, 1953:105). However, in combination with the other measures we employed it will be possible to determine the degree of consistency of these subjective reports with our other more objective types of data.

The criteria we used to establish objective measures of mental illness, mental health and related notions are the following. It is generally accepted almost by definition that the phenomena of mental illness entails both a disordering of psychological processes and the deviation of behavior from social norms (Clausen, 1956). Therefore, both of these criteria were tapped through the use of several different objective measures. The former aspect of the definition, usually measured by the method of the psychological inventory, is not, however, clearly distinguishable from the subjective assessment procedure used above. For example, subjective well-being is often included as one of the psychological processes which is "disordered" in these inventories. An alternative method is to employ less transparent measures which require subjects to check the presence of various behavioral symptoms which have been previously validated against other accepted criteria, such as psychiatric diagnosis, and therefore can be used as criteria in and of themselves. We chose this latter method. By using a previously validated instrument developed by Warheit et al. (Warheit, Bell and Schwab, 1973), we obtained information about symptoms which may be taken as indicative of the existence of mental illness and mental health problems. In addition, other items were included from another battery developed for a disaster study by the National Opinion Research Center (Marks et al., 1954).

The latter aspect of the definition of mental illness offered above may be assessed as the degree of adjustment to one's social environment. Adjustment has reference essentially to a person's adherence to certain

social norms or expected patterns of behavior. It would be both impossible and inappropriate to take the degree of a person's adjustment with reference to all of the norms operative in society as a measure of psychological disorder. If this were done, there would literally be no one left that could be called "normal." However, we have taken a few externally defined requirements or norms to constitute the criteria against which maladjustment is determined. First of all, through the Interfaith-DRC survey, we attempted to measure the extent to which emotional and psychological problems interfered with an individual's performance of routine work roles or other equivalent routine behavior patterns, such as housework, studying, etc. Secondly, we gathered objective data of a sociological nature from public records on the degrees of adherence to other social norms or laws. These were taken as possible indicants of maladjustment. Included in this second set of data were birth and death rates, hospital admissions, court records, juvenile delinquency rates, pattern of drug and alcohol usage, etc. These social indicators were taken as indicative of possible stress or maladjustment at the individual level.

Since it is likely that changes in these indicators would be more significant in the long-run recovery period as opposed to the more immediate emergency period, our analysis of these variables was based on comparing the second six month period after the disaster (October 1974 - March 1975) with the same six month period in the year prior to the disaster (October 1973 - March 1974). In one respect, this data is perhaps the best measure we have of the actual impact which the disaster produced on the mental health-related needs of the victim population. This is because other measures were obtained only for the post-impact period, and thus we cannot necessarily attribute the incidence of the mental health-related needs we discover to the occurrence of the disaster event itself.

We shall also use both objective and subjective criteria to assess the nature and frequency of problems in living experienced by the population. However, our determination of these human needs will rely on more straightforward measurement procedures.

To summarize, the conceptualization of mental illness, mental health, and related notions as well as measures or indices of such phenomena are, of course, matters of considerable dispute and controversy about which there is little consensus among theorists and practitioners. We address all of these conceptual and measurement problems in detail in another more technical publication (Taylor et al., forthcoming). However, for purposes of exposition here, we set forth some gross distinctions and specify relatively arbitrarily what indicators we used for different purposes. Issues concerning the validity and relative worth of any particular measure need not concern us at this point, for we do not employ any one of these measures alone to indicate the magnitude or nature of the phenomena we are studying. However, by comparing the data obtained through the use of all these operational indicators, it is possible to determine whether or not there is at least some persistent distributional pattern. Different concepts and operational indicators might, of course, evoke a distributional pattern not identical to that portrayed below, but we have little reason to think that the general picture would be radically altered.

Data on Needs and Demands

We shall now analyze the effectiveness of the system's response to the disaster on the basis of the various types of data we gathered. In order to adequately determine the extent to which the services provided by the system were effective in meeting the needs of the population, it is necessary to be rather specific about the needs and the demands of the situation. Therefore, for purposes of exposition, our findings will be organized in this manner. Following the aforementioned distinctions between mental illness, mental health problems, and problems in living, we have classified all the data we obtained on the basis of its relevance to one of these three types of human problems. Then for each of these broad categories of mental health-related problems, empirical data are reported on both the needs and demands for services. The drawing of this distinction between the phenomena of mental illness, mental health problems, and problems in living allows us to make a sharper comparison between the nature of the mental health needs and the demand levels for particular types of services. Through this we can attempt to determine how effective the system was in providing the types of mental health services actually needed by the victim population.

Mental Illness

Demands. The belief guiding the system's earliest attempt to respond to the disaster was that the disaster might occasion widespread symptoms of psychopathology or mental illness among the victim population. In an effort to counter these problems, a medical service delivery model was set up (The Three Stage Plan). The volunteers working in this program were frequently aggressive in their attempt to seek out victims whose behavior was in any way symptomatic of serious disturbances. Yet there were at most only 50 referrals made from the first line centers to the second and third line centers for more intensive counseling or treatment. In order to assure that victims followed up on these referrals, the names of these 50 persons were eventually passed on to the Guidance Center who later contacted each person to offer them the services of the agency. Yet, in spite of the active manner in which clients were pursued, only about half of these persons ever followed up on their referrals to the Guidance Center, and most of these were only seen once. Furthermore, at the Third Line Center located in the county hospital, psychiatrists reported seeing only about a dozen persons, with most of their problems being long-standing and rather unrelated to the tornado. In fact, the majority of these persons were not even direct victims of the tornado.

This lack of demand for services geared toward the treatment of more serious disturbances persisted even beyond the immediate emergency period. The demand levels for services at the Guidance Center, the one clinical treatment facility in the county, reflect this. During April 1974, the month of the tornado, the agency did show a two percent increase in its case load, but this amounted to only 12 case openings more than in the month prior to the tornado. But in comparing the agency's average monthly case load for the six months prior to the tornado with the average monthly case load for the six months after the disaster, there was an overall 8.5 percent

decrease in its clients subsequent to the disaster. Furthermore, looking at the more long-run picture, the agency's monthly case load dropped by 35 percent in the following six months (October 1974 through March 1975) as compared to the same six month period in the year prior to the tornado. Consistent with the objective data gathered from the organization itself was the subjective data we obtained through the Interfaith-DRC survey conducted six months after the tornado. At that time, only two percent of the sample reported having had any contact with the Guidance Center.

Finally, the information we obtained from the Guidance Center staff itself supported these other two sources of data concerning demand levels. As a matter of fact, several staff members reported that a number of their former clients terminated their contact with the agency after the tornado. Some attributed the drop in demands for services to denial on the part of disaster victims. But the information reported by others at the agency clearly contradicted this viewpoint. That is, several of the staff reported the opposite feeling and that the tornado event had actually activated persons to seek the services of the agency. This attitude is reflected in the following comments of one worker.

I think basically what I'm finding is that families who were under stress before the tornado, for them the tornado was just one extra burden that they couldn't handle that brought them into the agency. They had to seek help because it just overloaded them. So they'll come in, we'll handle the storm-related things very quickly, and then we'll get into the underlying problems, like marriage problems, parent-child problems, and the more serious family situations that were there for years. But before the tornado hit, and probably if the tornado hadn't hit, they would not have come to our agency for mental health attention.

Perhaps even a better measure of the demand for services geared toward the treatment of mental illness is reflected in the pattern of admissions to the Dayton Community Mental Health Center, the state hospital facility most frequently used by Greene countians. An analysis of this data revealed a 30 percent drop in admissions to the Greene County wing of the hospital in the year following the tornado as compared to the previous year. Consistent with this, less than one percent of the sample reported contact with a mental hospital during the first six months after the disaster in the Interfaith-DRC survey. An explanation for the drop in hospital admissions was offered by a representative of the probate court. It was stated that with the rise in the number of alternative care facilities in the community, the court was increasingly reluctant to commit persons to the hospital.

The only data which reflect a considerable increase in the demands for services for the mentally ill are the number of mental illness and mental retardation cases filed with the probate court. These increased by 78 percent in the year following the tornado. However, the judge did not attribute this to the tornado. But even this uptrend in the number of court cases

filed appears to have produced no significant change in the case loads of the hospital or any of the various alternate care facilities in Greene County. This is indicated in the fact that the demands for aftercare services from the Guidance Center, the Public Health Aftercare Home Visitation Program, and the hospital emergency psychiatric services were relatively unchanged during the post-impact period.

Thus, summarizing the data, we find that there was little demand for services geared toward the treatment of more severe psychopathology. In fact, organizations who specialized in providing more long-run clinical treatments through the use of psychotherapy, drugs, or hospitalization actually experienced a decline in the demands for their services subsequent to the tornado. To what extent can we attribute the lack of demands for these services to the absence of any great need for them on the part of victims?

Needs. In general terms, our findings suggest that there was no overwhelming need for services geared toward the treatment of mental illness either in the short or long run. Among the major tentative findings are the following. First of all, examining the subjective measures we employed in the Interfaith-DRC survey, we found that only three percent of the population reported ever having felt that they might have a nervous breakdown at some time after the tornado. But out of this three percent, only a mere 15 percent of these people answered that this feeling had frequently interfered with their normal social activities, or their family and personal life, or had forced them to stay at home or in bed. As a matter of fact, our survey not only failed to uncover any manifestations of widespread severe disorders among the population, but a large percentage of the people reported extremely positive psychological reactions to the disaster event. For example, 84 percent of the population asserted that their tornado experiences had shown them they could handle crises better than they once thought they could, while 69 percent responded that they felt they had met a great challenge and were better off for having met it.

The criterion of social maladjustment was also used as an objective measure for assessing the incidence of mental illness among the population. According to the indicant of maladjustment utilized in the survey, there was little sign of behaviors indicative of mental illness among the population. For example, only four percent of the population reported having been unable to do their usual work because of worry or nervousness, and only one percent said that they had considered suicide at some time since the tornado. Therefore, according to both the subjective and objective criteria we employed, there was very little evidence of widespread mental illness among the population either in the long-run or short-run period. With this being the case, then the relatively lower level of demand for clinical treatment, hospitalization and other services geared to more serious pathological disturbances can, therefore, be attributed in all probability to the absence of any real need for the services.

Mental Health

Demands. During the long-run recovery period, the system increasingly turned its attention to the delivery of services aimed at increasing the

positive psychological adjustment of disaster victims. However, while there were greater demands for these types of mental health services than there were for the mental illness services offered during the short-run period, there was no onslaught of clients seeking these mental health services. Aside from the emergent Follow-Up Group, only one of the established agencies, the Crisis Center, experienced any significant change in its case load which could be attributed to the disaster. For example, as noted earlier, the Crisis Center handled over 4,134 disaster-related contacts in the month of the tornado, ten times its average monthly rate for the six months prior to the disaster. However, most of these contacts were of a general information nature (e.g., missing persons, legal and insurance matters, location of other agencies, etc.). At the same time, the agency's non-disaster mental health-related contacts remained relatively stable with the exception of the overall decline which was exhibited in the number of drug- and alcohol-related contacts. In May, the agency's case load was still almost double what it had been in the six months prior to the disaster, but by then only 28 percent of the agency's calls were disaster-related. By June and July, disaster-related contacts had dropped to an almost insignificant percentage of the center's requests for services. Even so, the agency nevertheless experienced an overall 20 percent increase in demands for its services throughout the one year period following the tornado. In fact, according to the Interfaith-DRC survey, the Crisis Center served about 3.2 percent of the total population which represents the highest percentage of the population served by any of the established mental health agencies.

In spite of this upward trend in the Crisis Center's case load, most of the staff reported that during the long-run period, they would not attribute this to the disaster per se. Furthermore, they stated that the types of services delivered to the majority of disaster victims throughout the Time Two period consisted mainly of informational and referral assistance, rather than services relating to emotional or mental health problems in the strict sense of the term.

There were two other existing contract agencies which, although they were not located in Xenia, could have provided mental health services to disaster victims -- Encounter and Yellow Springs Senior Citizens. However, neither of these two organizations reported any significant increase in the demand level for their services which could be attributed to the disaster. The staff of Senior Citizens did report that, although their case load data had not been changed dramatically, the tornado had affected the particular types of services requested from them by elderly victims. Nevertheless, according to the Interfaith-DRC survey, both of these agencies served less than one percent of the total population in the first six months after the disaster. Similarly, Family Services, a non-648 mental health agency, reached about one percent of the population with its services.

The emergent Follow-Up Group existed only during the post-impact period. During the six months of its operation, the volunteer outreach group reported that it provided preventative mental health services to over 380 families, or, according to the Interfaith-DRC survey, approximately 1.5 percent of the population. Furthermore, the volunteer staff reported that there were more inquiries and requests for their outreach visitation ser-

vices than they were able to provide in the six months time span of the project's operation.

To summarize, the data we obtained suggests that there were greater demands for various types of mental health services than there were for services geared toward treatment. But the demand was still relatively small. These findings could, of course, be attributed either to a lack of any need for these types of services among the population, or to the failure of the mental health system to effectively reach those who were experiencing mental health problems in relation to the disaster. To answer this question, we now turn to the data we obtained on the nature and incidence of mental health needs.

Needs. In general, our findings suggest that there was most likely a greater need for mental health services, especially in the long run, than was indicated by the demands for services reported above. Among our major tentative findings are the following. Employing subjective criteria, we asked the population how they felt emotionally or mentally after the tornado as compared to before. Fifty-eight percent responded they felt good or excellent; 33 percent reported they felt fair; and 9 percent said that their emotional or mental health was poor or very bad.

In addition, two types of objective criteria were used to assess the mental health needs of the population. First of all, a battery of objective behavioral and psychological items thought to indicate poor psychological functioning was included in the Interfaith-DRC survey; and, secondly, indicators of social maladjustment were obtained both through the survey and from other sources. The results obtained, based on the various behavioral and psychological symptoms used as indicators of mental health problems, were the following. It is often thought that persons who display chronic nervousness and express physiological complaints can be classified as suffering from some type of mental health problem (Downes and Simon, 1954). We did find that 50 percent of the population admitted to being more nervous or excited at some time since the tornado, while 56 percent reported feeling depressed or low on occasion. Other symptoms of emotional and psychological problems were also manifested, but by smaller percentages of the population. For example, 27 percent reported having had sleeping problems at some time since the tornado; 19 percent admitted to some loss of appetite; 25 percent reported headaches; 17 percent reported respiratory problems (such as colds, flu, allergies, etc.); 15 percent claimed to have had stomach problems or ulcers since the tornado; and 14 percent reported having experienced other major health problems.

Other behaviors which are typically treated as indicative of emotional or psychological problems are the use of alcohol and certain types of drugs. The data we used to measure changes in the pattern of usage of alcohol and drugs came from two sources. First of all, we asked the survey population to report any shifts in their own behavior patterns in relation to their use of alcohol and drugs. Then we obtained information from the major retail distributors of alcohol and drugs about any changes they had observed in the pattern of sales of these products.

In regard to the use of alcohol, only three percent of the population reported any increase in their use, while seven percent actually claimed that they had decreased their use of alcohol since the tornado. Consistent with these subjective reports of the population, the Department of Liquor reported that the number of gallons of liquor sold at the two state stores in Xenia and Fairborn had declined significantly. Assuming that long-run changes in the use of alcohol would be more significant than short-run patterns, particularly since there was a dramatic drop in sales during the short-run period when liquor stores were closed, we chose to compare the liquor sales from October 1974 to March 1975 with the same six month period prior to the tornado. The results of our comparison suggested a significant drop in sales both in Xenia ($t=13.8$, $df=10$, $p<.001$) and Fairborn ($t=16.5$, $df=10$, $p<.001$).

The only drugs that were reported as being used by a significant percentage of the population were tranquilizers and sleeping pills. For example, 10 percent of the survey sample reported the use of sleeping pills, with two-thirds of the users stating that they had increased their use of the drug since the tornado. Twenty percent admitted to using tranquilizers, with about three-fourths of these admitting that their usage had increased since the tornado. The information obtained through a survey taken of the seven major retail drug stores in the Xenia area confirmed the subjective reports of drug use obtained from the population. Only one pharmacy maintained an actual record of sales, and, according to this information, tranquilizers and sleeping pills accounted for 18 percent of the total new prescriptions in the first four months after the disaster as compared to 10 percent for the same period in the year prior to the tornado. The other druggists provided a mixed picture. But most had the impression, without being able to provide any actual documentation or statistics, that there had been an increase of about 50 percent in the sale of tranquilizers like librium and valium during the first six months after the tornado. However, one pharmacist was quick to state that "Xenia has always been a tranquilizer-happy town." Some of the drug outlets thought that there had been an increase in the sale of antidepressants in the first six months after the tornado, but this was not a consistent report across all stores. However, in all cases except one, druggists agreed that the sale of both tranquilizers and antidepressants had leveled off by one year after the tornado. One pharmacist thought that he detected a slight increase in the demand for both types of drugs around the anniversary of the tornado.

The second set of objective data used to measure the incidence of mental health problems was based on the criterion of social maladjustment. Looking first at the survey data, we found that 14 percent of the population reported missing five or more days of work because of an emotional or mental health problem. But only four percent stated an overall inability to do their usual work as a result of worry or nervousness. The quality of a person's social relationships is often thought to be related to the need for mental health services. Yet only two percent of the population admitted to worsening of their relationships with close friends and family since the tornado, with 27 percent instead claiming that these relationships had improved. Similarly, a mere three percent found their marital relationships less satisfying since the tornado, while 28 percent reported

them to be more satisfying. Thus, using the criteria of social adjustment, the picture we get is a mixed one, but seemingly more people claimed positive changes in this regard than negative ones.

Another set of objective data was obtained from public records. These were used to measure social maladjustment or stress among the victim population. We believed that any changes manifest in indicators of social adjustment over the long-run period would be more significant than short-run shifts. Therefore, for each of these indicators, data for the second six month period after the disaster was compared with data from the same six month period in the year prior to the tornado unless otherwise indicated.

First of all, looking at certain vital statistics thought to be indicative of changes in normative patterns of behavior among Xenians, we found that there was no significant change in the marriage and divorce rates after as compared to before the tornado. Likewise, no change was observed in the incidence of venereal disease among the population. However, certain other vital statistics did indicate changes in other patterns of behavior. For example, there was a significant decrease both in the number of births ($t=3.78$, $df=10$, $p<.01$) and the number of illegitimate births ($t=2.8$, $df=10$, $p<.01$).

In examining the various causes of death, no significant change was found in the number of deaths by cancer ($t=1.1$, $df=10$, N.S.=not significant), still birth ($t=1.1$, $df=10$, N.S.), homicide, cirrhosis of the liver ($t=1$, $df=10$, N.S.), congenital malformations ($t=5$, $df=10$, N.S.), suicide ($t=3.71$, $df=10$, N.S.), or other causes ($t=.5$, $df=10$, N.S.). However, a significant decrease was reported in deaths due to heart disease ($t=3.87$, $df=10$, $p<.01$), vascular disease ($t=3.3$, $df=10$, $p<.01$), and respiratory disease ($t=2.67$, $df=10$, $p<.05$). These latter findings are particularly interesting since a rise in the incidence of heart disease is often predicted by experts in situations which produce high amounts of tension and stress; yet our findings support exactly the opposite trend.

There is a considerable amount of evidence that those individuals who exhibit mental health problems during normal times also express complaints about their physical health (Downes and Simon, 1954). The statistics we gathered from Greene Memorial Hospital do, in fact, reflect a significant increase in the number of emergency room visits ($t=9.9$, $df=10$, $p<.001$) and outpatient visits ($t=7.19$, $df=10$, $p<.001$). Since these types of facilities are more likely to be utilized for routine and minor health complaints, it is not at all surprising that, in contrast, there was no significant increase in the total number of hospital admissions ($t=.283$, $df=10$, N.S.).

Perhaps a more direct measure of the criterion of social maladjustment could be obtained by examining changes in the pattern of officially defined deviations from the law as reported by the court system. Through examining the records of all the courts in Greene County, we noted an overall rise in the number of cases filed after the tornado in all courts, except the court of common pleas and one civil traffic court. Thus, there was a statistically significant increase in the number of cases tried in the juvenile

court for delinquency ($t=9.95$, $df=10$, $p<.001$), traffic violations ($t=8.6$, $df=10$, $p<.001$), unruliness ($t=5.5$, $df=10$, $p<.001$), and dependency and neglect ($t=2.29$, $df=10$, $p<.05$). The same pattern of increase was found in the number of criminal traffic cases filed in the municipal court ($t=11.63$, $df=10$, $p<.001$). However, while there was also a slight uptrend in the number of civil and small claims cases filed in the district traffic courts, the difference was not statistically significant.

While it is tempting to interpret these findings as reflecting a sharp rise in the number of legal violations and, therefore, as indicants of widespread social maladjustment among the population, other interpretations are also possible. For example, by examining the number of offenses reported to the police, we discovered that there was a statistically significant decrease in the actual number of offenses reported to the police in the period following the disaster as compared to before. Furthermore, the number of domestic trouble calls made by the police in the year following the tornado did not change significantly. These somewhat contradictory findings lead us to believe that there was really no overall increase in the number of cases entering the criminal justice system, but rather that there was a significant rise in the number of cases actually processed through the courts. Thus, it was not so much the behavior of the population itself with respect to the law which accounts for our findings, as it was the behavior of those who were adjudicating the law.

Looking at other indices of legal deviation, a similar inconsistency was found in the data obtained from the Children's Services Agency. For instance, the number of protective service referrals, which include cases of dependency and neglect, significantly increased in the year after the tornado ($t=4.87$, $df=10$, $p<.001$), but the number of cases of abuse reported to the state actually showed a slight decrease, although it was not statistically significant ($t=1.2$, $df=10$, N.S.). The increase in the number of protective service referrals can be explained by the fact that during 1974 the state of Ohio, following a federal mandate, passed laws to streamline reporting procedures in order to facilitate the filing of cases of neglect and abuse. These laws, therefore, made it somewhat easier to document cases of neglect and abuse. Consequently, if anything, these changes should have served to increase the number of cases reported. Thus, it appears rather significant that the number of abuse cases registered showed a downward trend, since the effect of the new state law should have been in the opposite direction.

How do we summarize this mass of data we have reported on the incidence of mental health problems among the victim population? Certainly these findings do not suggest the widespread prevalence of mental health problems among the population. However, according to both the subjective and objective criteria employed, there is considerable indication that a fair amount of the population exhibited a need for mental health services following the disaster. But taking into account the moderate amount of demands placed on mental health agencies for their services, it is safe to assume on the basis of the various indices reported here that there was a greater need for mental health services than was actually met by the services provided by the system. So in this regard the system appears to have

been somewhat ineffective in its efforts to produce an impact on the mental health needs of the population.

Problems of Children. It is frequently asserted by some that there are certain categories of people, such as children, the aged, various ethnic or socioeconomic groupings, etc., who are particularly vulnerable to stressful experiences as a result of disaster events (Kliman, 1973; Hall and Landreth, 1975; Howard and Gordon, 1972). Therefore, it is presumed that these groupings of people are more likely to exhibit emotional and mental health problems. A detailed analysis of mental health needs and demands according to age, race, socioeconomic status, etc., will be reported in a more technical forthcoming publication (Taylor, forthcoming). For this report, we will merely present some initial tentative findings about children.

There was, as stated earlier, considerable concern expressed about the response of children to the tornado experience. But while much concern was expressed, relatively few special programs were set up for them. The programs in the school were noted in Chapter IV. As far as the formal mental health system is concerned, it was well over six months after the disaster before it organized some special programs.

Since very few agencies differentiate children from adults in their case load statistics, most of the data we have on the extent of demands for services by children, therefore, is that which was obtained in the Interfaith-DRC survey. However, considerable caution must be taken in the interpretation of the survey data since the information on children's reactions was gathered from the reports of parents.

In general, the requests for mental health services by children were almost identical to the demand levels we discovered for the population as a whole. For example, three percent had contact with the Guidance Center; three percent had contact with the Crisis Center; one percent were served by Encounter; and five percent received the services of a school counselor. These findings, therefore, suggest that, contrary to what was generally expected by key mental health officials, there was no overwhelming demand for mental health services by or for children following the tornado.

With respect to children, it appears that their actual mental health needs were not as high as projected. The Interfaith-DRC survey data present a somewhat mixed picture. On the one hand, certain objective criteria we specified seem to suggest a rather high incidence of emotional and behavioral reactions specifically related to the storm experience. For example, 81 percent of the children were reported to have become more nervous and excited about storms in general; a fear about future tornadoes was said to have been expressed by 66 percent of them; and 47 percent of the children were stated to have been generally upset by the tornado experience. In one way, these findings are not too surprising, because there is some research indicating that young children generally are rather fearful of phenomena such as storms, lightning, tornadoes, and the like (Miller et al., 1972).

On the other hand, the survey data also showed a much lower percentage of the children being reported as exhibiting more general emotional and behavioral reactions usually thought to be indicative of psychological disturbances. For instance, while 30 percent of the children were reported as having experienced nightmares or other sleeping difficulties in Time Two, only 14 percent had at times engaged in excessive crying. Furthermore, only eight percent had had bedwetting problems, with six percent supposedly having been more prone to illness and five percent having had eating problems. For a six month period, these figures do not seem to be particularly high; some of these behaviors would certainly have been manifested even if no tornado had come close to Xenia.

The picture we get of children's mental health needs based on the criteria of social adjustment is even more positive. According to the survey findings, some of the children appear to be better adjusted to their home situations than prior to the disaster. As an indication of this, 19 percent of the children were described as being easier to get along with since the tornado as compared to before, and 15 percent were reported to have assumed more responsibility around the house. Furthermore, 29 percent were stated to getting along better with their friends; and 21 percent were described as generally happier in Time Two. Furthermore, 30 percent were reported as having taken more interest in school since the tornado. Perhaps another indicator of this latter finding is reflected in the fact that, according to the data obtained from both public and private schools in the area, there was no statistically significant change in the average daily attendance or average daily absenteeism in the schools in the year following the tornado. There was, of course, some drop in enrollment, but as stated in Chapter II, there is evidence that this was largely due to the long-run decline in the birth rate, rather than movement away from Xenia (Taylor, 1974).

Thus, the overall picture we get about the mental health needs of children is a mixed one. Most of the more negative findings are storm-specific rather than reflective of more general emotional and behavioral problems. Knowing this, it is difficult to state whether or not the particular types of services provided by the system had any impact on the mental health needs of the children. In all probability the system was not really effective in meeting the needs of children. But this is not so much because the children's needs were that high as it was because the mental health system, in spite of its outward concern for children, actually made very little effort to offer special services to them.

Conversely, just as there may have been an overestimation of demands for mental health services for children, there is some tentative evidence which we will not discuss here that the needs of the aged may have been underestimated. Likewise, there are some indications that indirect victims, those Xenians who did not suffer direct losses, may have had more problems than were recognized by the mental health system. But whether these tentative impressions hold up will only be determined by the current detailed analysis being undertaken and to be reported later (Taylor, forthcoming).

Problems in Living

Demands. Only one organization which later became a component of the formal mental health system was specifically established to deliver a broad range of social service assistance and emotionally supportive services in relation to the disaster. This was the Interfaith Council. The demands made on this agency for its services exceeded the demand levels of all other organizations discussed thus far. For example, the agency reported that it aided over 3,000 persons, which included providing over \$500,000 of direct cash assistance to disaster victims. Furthermore, over 800 home visits offering emotional, material, and referral assistance to victims were made by the outreach advocates. Thus, a total of 14 percent of the population reported having been helped by Interfaith, with 8.4 percent claiming to have received the services of the outreach advocates. Clearly this data alone suggests that there was a far greater demand for the broad range of human services offered by Interfaith than there was for mental health services in the narrower sense of the term. In fact, the staff of Interfaith stated that the demands for their services far exceeded the resources they had available for offering assistance.

A further indication of the extensive demands for broader human services is found in the services provided by other agencies who delivered social and welfare assistance to disaster victims. According to the Interfaith-DRC survey, 30 percent of the population reported having been assisted by the Red Cross; 13 percent were aided by community churches; eight percent were assisted by the County Welfare Department; nine percent received help from the Ohio Unemployment Services; and one percent received help from Catholic Social Services. Furthermore, the Department of Housing and Urban Development assisted 15 percent of the population in locating housing, and the Small Businessmen's Association provided loans to over ten percent of the population.

An additional indication of the amount of services provided by organizations who were delivering more direct forms of social and welfare assistance is found in the overall increase in the demands for various types of welfare services. For example, the results of the survey suggest that 23 percent of the population received food stamps in the first six months after the disaster, a figure which is 2 1/2 times greater than the number who were using food stamps prior to the disaster. Likewise, the Greene County Welfare Department reported a significant increase in both general relief cases ($t=26.3$, $df=10$, $p<.001$) and the number of clients receiving Aid to Dependent Children payments in instances where the father was unemployed ($t=10.7$, $df=10$, $p<.001$). However, there was a decrease in the number of general relief medical payments made to clients ($t=19.2$, $df=10$, $p<.001$); regular aid to dependent children also declined ($t=26.8$, $df=10$, $p<.001$).

Although most of these services could hardly be thought of as mental health services in the strict sense of the term, the offering of these types of human assistance to disaster victims is certainly one method of increasing the overall well-being of an individual. While only Interfaith saw its services as fulfilling a mental health function, others offered similar services which, according to the community mental health ideology,

could likewise be construed as filling a therapeutic function for disaster victims. Our data suggests that, without a doubt, the demands for these types of services, whatever we chose to call them, by far exceeded the requests for mental health services in the more narrow sense of the term. However, the demands were still relatively moderate in light of the probable needs, a matter we shall discuss in the next section.

Needs. According to our survey findings over 55 percent of the population suffered some damage to their residences, although the damage was only minor in half of these cases. With the amount of destruction wrought by the tornado and the subsequent disruption introduced into social routines, there was bound to be produced a considerable number of problems in living for those living in the Xenia area. Even those who were not direct victims experienced a radical alteration in their social environment which, likewise, meant that they often had to adapt their routine patterns of living in one way or another. But it was not only the disaster event which created problems for victims. The disaster-induced problems were often exacerbated by inefficient and ineffective relief and recovery operations by some of the federal agencies (which also will be analyzed in another forthcoming DRC report). For some Xenians, there were many more difficulties associated with obtaining aid from government agencies than direct difficulties occasioned by the tornado itself.

But what was the specific nature of the problems in living experienced by the population? Six months after the disaster, the Interfaith-DRC survey ascertained the population's own perception and ranking of their own household needs. All respondents were asked to indicate their need at that time for 30 different kinds of services and programs. The ten services most frequently listed in the rank order of their selection were youth programs, public transportation, recreation programs, free food, continuing education programs, low-cost housing, consumer protection, free clothing, free medical attention, and rent assistance. While counseling services were included on the list, they were ranked twentieth on the list of service priorities as defined by respondents. Thus, it is evident that the people themselves ranked their social service needs much higher than they did their mental health needs.

However, in spite of the apparent needs, the demands even for human and social services were still not extensive, although they were greater than the demands for mental health services, and far greater than the almost nonexistent requests for clinical treatment and hospitalization. Yet our data suggest that it is probable that the actual needs for broad human services far exceeded the demands made on organizations for these services.

The System's Effectiveness

What then, according to our research findings, can be said about the system's effectiveness in responding to the disaster? If we take the perspective that the effectiveness of the system's operations is measured by the amount of congruence or discrepancy between the services it provided and the actual needs of the victim population, it is evident that the

Greene County local system fell short in its efforts to provide disaster-related mental health services. For instance, there was neither any need nor demand for mental illness services either in the short or long run. Yet the system at first responded with a medically-oriented service model. There does appear to have been a greater need for mental health services, yet this also was not effectively met by the mental health system. And, finally, there were very significant needs and demands for human and social services (mental health in the broader sense of the term as treated in the community mental health ideology), yet the system fell noticeably short in its efforts to meet these demands. As to special categories of the population, the human service needs of the aged and the mental health needs of indirect victims may have been grossly underestimated, while the mental health needs of children were most likely overestimated.

How do we account for the system's ineffectiveness in responding to the tornado? The discussions in the previous chapters contain the answers. But of all the factors discussed, two perhaps are more important than the others insofar as system ineffectiveness is concerned. First of all, key officials of the local system were never able to identify in a satisfactory way the specific nature of the mental health needs of the population in the Xenia area, especially in the short run of Time Two. Therefore, the system adopted a strategy which was similar to its Time One service delivery pattern by offering clinical treatment geared toward more serious emotional and behavioral disorders commonly referred to as mental illness. These services had virtually no relevance to the needs of the tornado victims, and therefore had no impact on the population.

The second factor contributing to the system's relatively ineffective response is that, even if the needs of the population had been fully recognized, the Time One system simply lacked the full capability required to meet such needs. What basically was required in order to meet the actual needs of victims were programs aimed at prevention and the offering of a broad range of human services. The established components of the local mental health delivery system were largely not prepared, either structurally or functionally, to move into providing such activities. In actual fact, neither were the coordinating and controlling units of the system, that is, the 648 Board and staff.

As Time Two developed, there was a greater recognition about what needed to be done, and the system made an attempt to expand its services to answer the needs. But the new components which the emergent groups added to the system were still unable to meet all of the demands placed on them for their services. Meanwhile, the established components of the local system served only a very small percentage of the population. Thus, just as the system had been ineffective in its efforts to provide services in the short-run period, it was likewise ineffective in its attempts to provide preventive mental health and broad human services during the longer-run period. But in this instance it was not because the services offered were not needed by the population. Rather it was because the system had ventured so far beyond its Time One pattern of service delivery that it lacked the resources it needed to effectively provide these services. In fact, some of the social services that the system was attempting to provide

clearly fell within the domain of other systems, particularly the social service sector. The mental health system was not really prepared to provide social services, and perhaps in its efforts to venture into this arena, it slighted the responsibility it had to provide mental health services in the more strict sense of the term, a need which was clearly manifest by the population according to the results obtained through the population survey. It is also possible that the population would not as readily avail itself of social services when they are offered in the name of "Mental Health Care."

The local system no matter what relevant criteria would be used, certainly did not meet all of the mental health-related needs manifested by the tornado-affected population. Of course, no mental health system could ever be that effective. For that matter, perhaps no system should ever be that effective, for who has the right to decide that all persons who suffer mental health problems should be treated, if they do not so choose to avail themselves of services? But without pushing it to that extreme, it is nevertheless fairly obvious that in Time Two many people in Greene County would have availed themselves of considerably more mental health services if they had been provided and offered. And the system fell short of its own goal, which was to deliver the types of services required and to provide them to all of those who, in fact, actually needed them.

The above is the conclusion that has to be reached if the idea of effectiveness is used. An even more negative view would have to be expressed if the efficiency were taken into account. Lacking effectiveness, the delivery system could not have been efficient.

However, to conclude on this negative note would be to ignore an incontrovertible fact about what happened after the Xenia tornado. It is the simple fact that many people and groups in and around the area did attempt to do something in the mental health area. Relative to previous disaster efforts, the effort made was massive. A not insignificant number of people were helped. As stated in the preface of this report, the organized effort made and the number of people that were provided some kind of mental health-related services almost certainly give Xenia and its mental health system a historical first. In the decades to come, it is probable that this particular organized attempt to deliver mental health services after the tornado will mark a turning point in the history of the mental health area in this country with respect to its involvement in disaster responses. It is certain that in future major disasters in the United States, that organized massive efforts to provide disaster-related mental health services will be attempted. But the first such major effort was in Xenia. Nothing can take away that historical first. History will record the activities of the Greene County mental health delivery system as the major pioneering effort.

What lessons are to be learned from what happened? In the next chapter, we attempt to draw some of the implications that our study suggest as being among the more salient.

VII. SOME IMPLICATIONS OF THE STUDY

We have described and analyzed in considerable detail salient aspects of the delivery of mental health services following the Xenia tornado. Thus, we can now ask the question: What are the policy implications of the examination undertaken in this study? In this chapter we suggest the major implications of the research for disaster planning as well as for the pre-, trans-, and post-disaster delivery of services by mental health systems. Our discussion is divided almost in outline form into three major sections: (1) the demands and needs that might be anticipated for mental health services in disaster situations; (2) the capabilities for delivering services that should be available; and (3) the planning that has to be developed if the appropriate capabilities are to be available for meeting the probable mental health demands and needs in disaster situations.

Any disaster will vary somewhat in its impact from any other disaster; similarly the impacted population and area will be somewhat different from one event to another. This might have consequences for the demands and capabilities likely to be present in the situation as well as the disaster planning that may have been undertaken. For purposes of discussion we assume a fairly large-scale disaster (the Xenia case would represent the high end on a continuum of scale of disasters) which impacted a moderately urbanized area relatively suddenly. Thus, we assume that very slow-moving disasters such as floods, or the occurrence of a disaster in a rural area or village or conversely in a metropolitan ghetto, might present a different situation than the one we are discussing. Actually the situation might be quite similar but we do not have much data for these other kinds of possibilities from our own studies or the studies of others. Our suspicion is that there are probably far more similarities than differences in the various possibilities but we do not know this as a sheer matter of fact.

Technical and specific terms in this chapter are used in the same way as they were earlier discussed. Furthermore, no effort is made to document or support the points made since presumably they all follow directly or indirectly from the discussions in the first six chapters of the report. Likewise, no specific examples or illustrations are used since general points at this stage of the report should be fairly self-explanatory.

Demands and Needs

In this section we note the distinctive nature, frequency and duration of mental health-relevant demands and needs following a disaster, as well as special problem areas for certain categories of the population.

1. There will be no demand for mental illness services beyond those which normally exist.

2. There will be no need for mental illness services beyond those which normally exist.
3. There will be relatively little demand for mental health services.
4. There will be more need than demand for mental health services.
5. There will be substantial demand for broad human services.
6. There will be greater need for broad human services than indicated by demand.
7. Demand for mental health services are likely to drop slightly in the immediate post-impact period and to rise slightly later.
8. There will be an increase in demands and needs for broad human services if the Time Two period changes, as it almost always does, into a conflictive type of situation.
9. While there will be some demand for mental health and other services for children, the demand is unlikely to exceed expectations.
10. The need for mental health and other services for the aged will be more than the demand and likely to exceed expectations.
11. The mental health and other service needs for indirect victims (not directly impacted by the disaster) are likely to be underestimated.
12. Caregivers of mental health services may have mental health and other needs which may not always be recognized.

Capabilities and Responses

In this section we note the nature of the mental health-related capabilities and the kinds of responses that might be appropriate given the demands and needs we have just discussed. Emphasized are the following themes: (1) most of the response must be planned for before any disaster impact; (2) the major responsibility for planning, coordination and operational activities must be at the local community level, with state assistance being only of a supportive nature; and (3) the disaster-related mental health delivery service planned and implemented must be flexible and adaptable, particularly allowing for the appearance of emergent groups.

For purposes of exposition, we organize our remarks around six major questions set forth in Chapter V regarding a mental health system

in a disaster. Who should deliver services? What services should be delivered? For whom should the services be provided? Where shall the services be provided? How should the services be delivered? When should the services be delivered?

Who?

1. Responsibility for delivering services should primarily be at the local community level. Delivery in this context means planning and policy decisions as well as actual operational activities.

2. The local mental health sector should have the prime responsibility; it should not be given to an extra-community entity or other local community institutions (e.g., at the state level or in the medical sector).

3. The responsibility should be that of an overall mental health delivery system. One organization or agency should not have the major responsibility alone.

4. Within the local mental health delivery system, some established organization should have the planning and policy responsibility. While plans should insure that established and emergent groups would deliver all the actual services to clients, an old established group with existing coordinating and supervisory functions should take the leadership regarding the preparing for the delivery of disaster-related services.

5. There should be a clear-cut division of labor between the coordinating and supervising unit and those operational groups actually providing services to clients; the former should stay completely away from any of the tasks involved in the latter kind of activity.

What?

1. Most disaster-related services delivered should not be labeled mental health services.

2. The system should be prepared to provide broad human services or, in many respects, what the community mental health ideology currently advocates.

3. The system should also deliver mental health services in the narrower sense of the term. An emphasis on broad human services should not obscure the demand and needs for the more usual mental health services, even during times of disasters.

4. The disaster-related services provided should be directed primarily at prevention rather than treatment. The objective should be more on the prevention of problems than the clinical treatment of symptoms.

For Whom?

1. The potential clients of services should be assumed to be the total general population in the disaster-impacted area. There should not be an assumption that clients will come only from limited or selected segments of the population.
2. Priorities should be established for delivering services to likely to-be-neglected sectors of the general population (e.g., the aged, ethnic groups etc.). While the general population ought to be assumed to be the client population, there is not an equal probability that all sectors will equally demand services.
3. Attention should be paid to the indirect victims (i.e., those persons in and around the impacted area who suffer no direct losses). The threat of danger or indirect disruptions of life can have as serious mental health implications as actual and direct disaster impact.
4. The aged in particular should be considered. Since they normally receive social services and might appear to have less of certain kinds of losses in disasters (e.g., loss of job or income), the consequences of a disaster for them might be less obvious.

Where?

1. Outreach programs should be developed to reach potential clients; an active seeking of persons out in the community who might need services ought to be undertaken.
2. The provision of services in shelters, one-stop centers and other convergence points of disaster victims should be attempted. Advantage ought to be taken of the fact that the hardest hit disaster victims are likely to be in certain physical localities, especially in the emergency period.
3. Some attention should be given to reaching potential clients who are outside of the usual service delivery area. Major disasters frequently dislocate substantial numbers of the population and such displaced persons ought to be considered even though they may be outside of the normal service delivery area.
4. For the more traumatic kinds of disasters, (usually those that are sudden and unexpected), services should be provided in hospitals, both in the emergency period and over the long run.

How?

1. Services should be provided through the use of a broad and diverse range of techniques; innovation and imagination are especially needed at times of disasters and reliance ought not be placed solely on standard and orthodox means.

2. Services should be provided as services and not labeled as therapy. The mental health image is still frequently confused with mental illness and efforts ought to be made to avoid such labels.

3. A service network should be established. In part, this means the pre-impact establishment of linkages with groups outside of the mental health system such as emergency organizations, hospitals and the mass media.

4. The bulk of services that should be delivered can be provided by volunteers and paraprofessionals subject to the general guidance and supervision of professionals. This assumes that the caregivers have been given a certain amount of minimal training and in-service feedback on their activities.

When?

1. Services should be provided as quickly as possible; in the instance of some disasters, this means even before they impact -- also, the threat of impact at times can be as disturbing and disruptive as actual impact.

2. Services should be provided on the basis of the known needs in the situation rather than the perceived demand. That is, the pacing and timing of the services delivered ought to be adjusted to what is known as being needed in the situation rather than what is being demanded at any given point in time.

3. The provision of disaster-related services should not be terminated on the basis of some arbitrary date; it should be based on the disappearance of disaster-related needs and demands.

Planning

Bringing about a balance between the likely mental health-related demands and needs in a disaster situation, and the appropriate capabilities and responses, can obviously be brought about by planning. However, this kind of planning can not await the appearance of a disaster. There has to be Time One planning for the pre-, trans-, and post-disaster stages. Furthermore, while planning should be the prime responsibility of the major coordinating and supervisory unit in the local community mental health delivery system, other organizations need to be involved. Particularly important are federal and state agencies, although we will exclude the former from our discussion since their policies and plans are determined in part by criteria and factors outside of the mental health area.

Our analysis of the Xenia situation shows that neither the good intentions nor the competence of persons in the mental health area are

enough to insure an efficient and effective response to and the planning for delivering services. There are systemic and organizational flaws, weaknesses and problems that have to be considered. They can be overcome by goodwill, ad hoc decision making, dependency on friendship ties, or a hope that abstract professional knowledge will somehow transform itself into meaningful, practical services that are needed and demanded.

In general terms, the following are the more important aspects towards which planning ought to be directed. Required are: (1) an informational effort to acquaint the mental health and non-mental health sectors about the real mental health needs and demands likely in disasters, and the system and organizational capabilities necessary for delivery; (2) the initiation and integration of disaster planning in the mental health area with overall community disaster planning; (3) a building upon ongoing mental health programs instead of creating special mental health disaster planning; (4) a clearer and sharper division of labor between state, district and local mental health agencies with respect to mental health service disaster planning and implementation; (5) a division of mental health disaster planning in terms of tasks and functions with respect to pre-, trans-, and post-disaster periods; and (6) the institution of a continuing evaluative feedback mechanism on any disaster-related mental health service delivery program that is used in any disaster.

More specifically, the following might be suggested in terms of different time periods and with regard to a division of labor between the state and local community systems.

Pre-disaster

Local responsibility:

1. Developing an overall disaster-relevant mental health delivery plan.
2. Linking marginal and peripheral mental health-related organizations to the overall plan.
3. Coordinating the mental health-relevant disaster planning to overall community disaster planning.
4. Educating the system's own personnel and agencies to disaster reactions and problems as these have been established by research.
5. Preparing guidelines for proposals and programs that might be submitted after a disaster for external use.
6. Ascertaining the legal and other procedures and steps that will be necessary to report adequately about the disaster needs, demands and responses to state and other external groups.

7. Taking advantage of more localized disasters and large-scale accidents to exercise the developed plan.

The above steps primarily require some legitimate group to take the initiative more than they require the use of resources. Perhaps more important is the notion that it should be stressed that disaster planning ought to be a routine activity of any local mental health delivery system. It should not be treated as a special or unique system task.

State responsibility:

1. Creating an awareness at the local community level that the delivery of mental health services in disasters is a local responsibility and issue.

2. Providing information about disaster responses generally and mental health problems specifically.

3. Setting disaster preparedness standards for local mental health delivery systems.

4. Passing of appropriate legislation specifying the rights and responsibilities of local mental health systems responding in disasters.

5. Establishing criteria for disaster funds expenditures.

The above can be implemented through seminars and meetings, distribution of books and pamphlets, formal requirements in local applications for regular state funds, and other kinds of leadership acts to sensitize local-level personnel and agencies to the matter of the delivery of disaster-related mental health services.

Trans-disaster

Local responsibility:

1. Initiating the disaster response of the system by activating the disaster plan.

2. Implementing the plan through such measures as conducting a needs-assessment survey and otherwise building a continuous information feedback mechanism.

3. Coordinating the response so that emergent groups are not ignored or isolated, but planning for their appearances, training their personnel and maximizing the advantages of such groups.

4. Facilitating, when needed, exchange of personnel and resources between established and emergent groups.

5. Assuring the appropriate allocation of intra- and extra-system resources to service delivery components.

6. Integrating the efforts of the local system with outside groups and relief agencies.

State responsibility:

1. Taking necessary steps at the state level while waiting for a request for state involvement by local officials.

2. Declaring the event an official disaster so necessary logistic support can be provided to the local system.

3. Providing of emergency standby funding to the coordinating group for the conducting of the needs-assessment survey and follow-up feedbacks.

4. Coordinating interaction between different catchment areas involved in the disaster response.

Post-disaster

Local responsibility:

1. Declaring the end of the disaster insofar as the delivery of mental health services are concerned.

2. Facilitating the transfer of any long-run disaster-induced clients to the care of the regular mental health organizations.

3. Making an overall assessment of how the local mental health disaster plan worked in the disaster and making appropriate changes in the plan as a result.

State responsibility:

1. Instituting a long-run feedback process so as to be able to evaluate all disaster-related programs.

2. Holding of biannual meetings of local mental health personnel to provide them information about disaster problems and what has been learned from local experiences.

The implications we have drawn from our study have to be qualified somewhat. Although we have incorporated the findings and observations of other studies, in general, the bulk of the conclusions are drawn from but one systematic piece of research, the DRC study of the delivery of mental health services in the Xenia tornado. This means, among other things, that we looked at a disaster that impacted but one kind of locality. The reference here is less to the geographic locale as it

is to the fact that the tornado did not hit an area having a disaster subculture which, as mentioned earlier, can affect expectations and reactions. Also, we looked only at a particular kind of disaster agent. It mattered little that it was a tornado as such; but it is probably important that the disaster agent was a relatively sudden-onsetting one, rather different from a flood or even a hurricane.

Nevertheless, when all is said and done, our research has been by far the most systematic and the largest data gathering effort ever undertaken on the problem of the delivery of mental health services in disasters. Furthermore, all conclusions and observations made are based on data, and not on inference, guesses or speculations. As such, it represents a solid although only an initial step towards understanding a phenomena -- the delivery of mental health services in disasters -- that will increasingly become a more salient feature of the future in American society.

APPENDIX

Copies of Some Field Instruments Used

- A. Organizational Activity Interview Guide
- B. Personal Activities Interview Guide
- C. Mail Questionnaire for Volunteers

A. Organizational Activity Interview Guide

Interviewer: get full name and position of informant.

First of all, I'd like to ask you a few general questions about this organization before we get to your more specifically tornado-related activities:

1. What was the organization set up to do?
Probe: complete inventory of goals and objectives.
2. At the time of the tornado, to whom was this organization responsible?
Probe: A. Lines of authority, including possible multiple ones.
B. Nature of authority (financial, setting of policies, appointments, etc.).
C. Degree of independence or autonomy.
D. Budgetary position and how normal budget requests are handled.
E. Probe for any changes in above.
F. Probe for possible problems of coordination with Dayton-based agencies.
3. Before the tornado, did this organization have any control or supervision over any other group? Has this changed in any way? How?
4. Before the tornado, what types of services did this organization typically provide?
5. What kinds of people (e.g., age, sex, social class, ethnic) does your organization serve?
6. Prior to the tornado, did you have any kind of outreach or home visitation service?

For how long?

- Probe: A. Number of staff involved.
B. Percentage of overall time spent.
C. Number of clients.
D. Nature of outreach service.

7. How does this organization typically get its clients? (pre-tornado and post-tornado)

Probe: A. Criteria for selection.

B. Primary sources of referrals.

8. Prior to the tornado, about what percentage of your clients did you refer to other agencies?

Post-tornado?

Probe: A. Criteria for referral.

B. Primary agencies referred to.

9. Before the tornado, which organizations, agencies, or groups had you worked with the most closely?

Probe: A. Nature of relationship and frequency of contact.

B. Pre- and post-tornado differences, if agency is not a new one.

10. What kind of relationship do you have with the other contracting agencies under the 648 Board?

Probe: A. Frequency of contacts.

B. Nature of contacts.

C. Referral relationship.

D. Evaluation of working relationship among agencies.

11. What effect, if any, do you think the tornado had on inter-agency relationships?

Probe: A. Changes in frequency of contact and communication.

B. Changes in frequency of referrals.

C. Changes in areas of responsibility, function, exchange of data, referrals, etc.

D. Changes in treatment-prevention strategies or mental health philosophy.

E. Extent of cooperation or conflict.

12. How much contact does your organization have with the 648 Board?

A. How frequently?

B. With whom on the 648 Board do you have the most contact?

C. What is the nature of these contacts (for what purposes)?

1. planning
2. policy decisions
3. training and education
4. advisory
5. adding resources (personnel, funding, facilities)
6. supervision and review

D. Does someone from your staff attend 648 Board meetings?

Does someone from the 648 staff attend your meetings?

E. How would you evaluate the contact you've had with the 648 Board?

F. Do you think that the 648 Board has had any difficulty establishing legitimacy with any of the various contract agencies?

G. Have there been any significant disagreements between the 648 Board and your agency regarding:

1. matters of policy?
2. concept of mental health and treatment-prevention strategies?
3. questions of authority?
4. funding decisions?
5. program adequacy?

H. As you see it, what is the responsibility of the 648 Board?

Do you have any formal relationship with the Board?

I. What do you know about future plans for mental health services in the Xenia area since the passage of the mental health levy?

Probe: specifics of the plan

Was your agency consulted with regard to overall mental health planning?

What were its recommendations, if any?

J. As far as you know, does the new plan have consequences for your organization?

What is the reaction of your agency to this?

13. What effect, if any do you think the tornado had on the relationship between your agency and the 648 Board? (Distinguish, when relevant, between staff and board.)

A. Did the tornado seem to encourage closer contact between your agency and the Board?

What about between your agency and the staff?

- B. Do you think the tornado helped to strengthen (or weaken) the position of the Board in relation to your (and other) agency? (legitimacy, authority, power)
 - C. Did the tornado seem to help or hinder the Board's exercise of leadership in relation to the various service agencies, yours especially?
 - D. Did the tornado seem to aggravate or improve any previously strained relationships between the Board and the agencies?
14. What effect, if any, do you think the passage of the last levy had on the relationships between service agencies and the Board?
15. Now to turn more specifically to the tornado, what types of activities has your organization or agency been engaged in since the tornado?

Probe: A. Exact descriptions of activities and/or services (time dimensions, names of co-workers and agencies).

B. Whether on-going or emergent.

16. We understand that there were some people from the Ohio Department of Mental Health and Retardation in Xenia after the tornado. What contact did you or other staff members with your agency have with these people?

A. What role did the Department people play in organizing a response to the tornado?

Is this degree of involvement typical?

Why do you think they were so active?

B. Do you think that these people provided any effective leadership for the service agencies in Xenia?

What kind and under what circumstances?

C. Do you think that anyone with your agency perhaps viewed the presence of these people as an unwelcomed intrusion in local affairs?

Did everyone agree that their role was a legitimate and needed one?

D. On the whole, how would you evaluate the role played by the Department of Mental Health following the tornado?

E. Did these people in any way influence any of the programs or plans initiated by your agency?

17. If psychological counseling services (or their equivalents) were NOT mentioned above, ask:

Did your agency provide any services that might be described as emotionally or psychologically supportive?

If such services were mentioned above, probe the following:

- A. What led you to think that there would be some need for these activities?

Probe for influences, where and when idea originated.

- B. Is this a new activity for your organization?

- C. How was the decision made to engage in this activity?

1. Who was responsible for the decision?

2. Where did the idea originate?

(Probe for outside influences, such as state department, NIMH, consultants.)

3. Were any meetings or discussions held?

Who was involved?

4. Were any other alternatives considered?

Were there any disagreements over alternatives (who and why)?

5. About how long did it take you to arrive at this decision?

18. What kinds of problems, if any, did your organization experience in attempting to provide services after the tornado?

Probe: Problems relating to coordination with Dayton agencies, especially.

Probe: A. Problems of internal coordination (formulation of goals and objectives, communications, lack of facilities, staffing, utilization of volunteers, status conflicts).

B. Problems with external groups, agencies, and individuals (e.g., convergence of volunteers and personnel from federal and state agencies, lack of funding, problems of coordination).

19. Did any other agencies or individuals (state, federal, or local) attempt to urge, direct or advise your agency to establish any particular kind of service?

20. Based on your experience, what kinds of psychological or emotional problems existed after the tornado?

Probe: A. How does this differ from expectations?

B. Reason(s) for expectations?

C. Did you have any contact with outside consultants on this matter? (Probe: nature and evaluation of contact.)

21. How did you go about determining what persons needed emotional or psychological support?

22. Do the kinds of psychological and emotional problems occasioned by a disaster require different types of services? What types? Why?

A. Would you say that at the time of the tornado there were agencies or organizations in the Xenia area providing this kind of service?

Who?

B. Is there a need for "outreach" programs?

C. Was there any concern expressed about duplication of effort?

D. Were there any new groups, organizations, or individuals that you are aware of which were set up to offer new mental health-related services as a result of the tornado?

Probe: Awareness and evaluation of Disaster Follow-up groups, whether or not respondent is aware of its relationship to 648 Board, etc.

23. As far as you know, what types of services are these organizations providing:

Probe: tornado-related mental health functions mainly.

1. Crisis Center
2. Guidance Center
3. Family Service Association
4. Inter-Faith
5. Disaster Follow-up
6. Golden Age Senior Citizens
7. Antioch Encounter Programs, Inc.

24. Are there any other agencies, individuals, or groups in the Xenia area providing mental health-related services, as far as you know?

What about non-Xenia groups, perhaps in Dayton, Fairborn, Yellow Springs, etc.?

*

(Note: The following two questions are for strictly mental health agencies or those who use the term "Mental Health.")

*

*25. The terms mental health and mental illness are often applied to the area we have discussed. Do you feel these terms are useful?

*

* What do you mean by them?

*

*26. From your agency's perspective of community mental health --

*

* 1. Who would be defined as mentally ill and in need of outside help?

*

* 2. What are some of the most effective strategies in dealing with
* psychological and emotional problems such as those you mentioned
* above?

*

* 3. What kinds of qualifications and resources do you think are neces-
* sary to perform these kinds of services? (i.e., personal exper-
* tise, organizational resources to administer expertise, etc.)

27. Looking back over your experiences, do you feel there are things your
organization might have done differently?

Did things happen pretty much as you had expected?

28. What advice would you offer organizations similar to yours?

B. Personal Activities Interview Guide

Interviewer: Record the following information about respondent (without asking directly).

Sex _____ Race _____ Age _____ (estimate to closest decade)

Before we discuss the specific activities you were involved in in Xenia after the tornado, perhaps we could start out with your personal experiences during and immediately after the tornado hit.

1. Where were you when the tornado hit Xenia?

If not in Xenia, how did you first find out about the tornado?

Probe: A. Specific content and source of information.
B. Respondent's own reactions to information.

2. What did you do immediately after the tornado? (If respondent discusses volunteer activities, go to question #4.)
3. Do you recall who the first person (or persons) was that you talked with about the tornado?

Probe for information that might explain the individual's involvement in mental health activities or volunteer work.

4. What specific types of activities (or volunteer work) did you engage in after the Xenia tornado?

Probe: A. Chronology of activities.
1. What organizations and individuals did you work with?
2. Major decision makers and coordinators of activity.

B. Nature of the activity.
1. Who did you offer assistance to? If referrals, what were the sources of referrals?
2. How did you determine who needed help?
3. How did you approach people in offering them assistance? How did you identify yourself? Why?
4. What type of assistance did you offer? If referral, to whom did you refer persons? On the basis of what criteria?
5. How did people respond to you and/or the assistance? (Note changes over time.)

C. How long were you involved in this work?
1. When did you stop?
2. Why? (Specific reasons and dates.)

- D. Were you a full-time or part-time worker? Paid or volunteer?

Probe: Changes over time.

5. What kinds of problems did you find that people expressed?

1. What problems people said they had.

2. What problems their behaviors suggested (explicit descriptions of behaviors, such as shock and depression).

3. Changes over time in problems expressed.

6. Do these differ from the kinds of problems you encounter in a non-disaster situation insofar as your experience is concerned? How?

Probe: A. Is it the types of people presenting problems? (e.g., middle class vs. lower class, differences by age, sex, race)

B. The intensity or severity of the problems?

C. Nature of the problem?

7. What approaches or strategies did you use in dealing with various types of problems? (i.e., treatment models or techniques)

Probe: A. Rationale

B. Exact description of specific activities, such as counseling, just talking to people, referrals, etc.

C. Uniqueness of strategies to disaster situation?

8. Were there any alternative approaches considered, or being used?

Probe: A. Content and source.

B. Evaluation

9. How effective do you think your efforts were?

Probe: What criteria for evaluation, which strategies were most effective?

10. Do you think that the types of problems occasioned by a disaster require different types of approaches than problems expressed in a non-disaster situation? Why? What types of approaches?

11. (NOTE: for strictly mental health workers or those who use the term "mental health.")

The terms mental health and mental illness are often applied to the area we have discussed. Do you feel these terms are useful? What do you mean by them? What other terms, if any, do you use other than these?

12. From your perspective of community mental health . . .

1. Who would be defined as mentally ill and in need of outside help?

2. What are some of your most effective strategies in dealing with psychological and emotional problems such as those you mentioned above?

3. What kinds of qualifications do you think are necessary to perform these kinds of services?

Since we are attempting to get an overall picture of the various individuals and groups who were working in the Xenia area, perhaps you could give us an idea of the different types of mental health (or counseling) services offered.

13. As far as you know, what types of services were these agencies providing?

1. Crisis Center
2. Guidance Center (Xenia and Dayton)
3. Family Service Association (Xenia and Dayton)
4. Interfaith
5. Disaster Follow-up
6. Golden Age Senior Citizens (Xenia and Dayton)
7. Antioch Encounter Programs, Inc.
8. Metropolitan Churches United (Dayton)
9. 648 Board (Dayton and Xenia)
10. Red Cross
11. Ohio Department of Mental Health and Mental Retardation

Probe for each agency:

- A. Contact with agencies (nature and frequency).
- B. Pre- and post-tornado differences.
- C. Evaluation of services (criteria).

14. What other organizations, agencies, groups, or individuals are you aware of that were set up to offer mental health-related services after the tornado?

15. If respondent is a member of a mental health organization (not clergy), ask the following: (Do not ask 648 Board in Xenia.)

1. How much contact does your organization have with the 648 Board in Xenia?

Probe: A. frequency

B. nature

1. planning
2. policy decisions
3. training and education
4. advisory
5. adding resources (personnel, funding, facilities)
6. supervision and review

C. any changes after the tornado

2. How would you evaluate the contact you had with them?

Probe: Try to establish the basis of the evaluation (programs, resources, its personnel).

3. As you see it, what is the responsibility of the 648 Board? Do you have any formal relationship with the 648 Board?

4. What do you know about future plans for mental health services in the Xenia area since the passage of the mental health levy? As far as you know, does this have consequences for your organization?
16. If not mentioned before, did you have contact with any consultants or persons from outside the Xenia area?

Probe: Nature, evaluation and influence of contact with outside consultants especially attempting to see how personal viewpoint was changed.

We would like to learn a little bit more about some of the factors that led you to engage in the activities that you did in Xenia.

17. First, have you had any previous disaster experience?

Probe: Where, when, nature of experience, extent of involvement, etc.

18. How did you personally get involved in tornado-related activities?

Probe: A. Who, if anyone, first contacted you? Did you contact anyone else? Who? Nature of contact?

19. What, if anything, led you to believe that there would be a need for mental health (or counseling) services after a tornado?

1. Did anyone influence you to do this?

2. Did you have any personal experiences which might have influenced you?

3. Were you influenced by anything you might have read or heard from mass media?

Now that we've talked about your experiences and activities related to the tornado, there are just a few final questions that we would like to ask you.

20. Have you had any specific training in the mental health area?

Probe: A. Respondent's level and type of formal education.

B. Did the kind of training you received lead you to adopt any preferences for any particular kind of approach or orientation?

C. Do you think that your formal training was of help in working with the Xenia disaster victims?

21. What about any training for the specific activities you carried out after the tornado (e.g., special training and debriefing sessions)?

Probe: A. Description of training -- who, what, when, how?

B. Degree of respondent's involvement (i.e., frequency of attendance, number of hours of training).

C. Usefulness for disaster-related work.

D. Usefulness in other areas of respondent's life? Other benefits (e.g., changes in respondent's social relationships).

22. Are you currently employed? (What kind of work person normally does, where, and length held job.)

23. Was there anything about your current employment which was useful in your disaster-related work? Any other experiences?

Were there any other experiences or skills which you acquired as a result of working in a disaster situation which have been useful in other situations or in your regular job?

24. As a final question,

1. Looking back over your experiences, do you feel there are things you or any of the agencies might have done differently? Did things happen pretty much as you had expected?

2. What advice would you offer other individuals or groups similar to yours?

C. Mail Questionnaire for Volunteers

Section A. Did you participate in the delivery of mental health or emotional support services at any of the disaster centers (Red Cross or One-Stop) or Greene Memorial Hospital in the first few weeks after the tornado?

Yes ____ No ____ (IF NO, SKIP TO SECTION B - BELOW)

1. Where did you first get the idea to volunteer at the disaster centers or the hospital? Mental Health Association ____ Friends or family ____ Employer ____ Own idea ____ Church ____ The mass media ____ Ohio Dept. of Mental Health ____ Other people at work ____ Other (Specify) _____
2. Please give a description of exactly what you did at the disaster centers or hospital.
3. Overall, what percentage of your activities at the disaster centers or the hospital consisted of giving clearcut emotional and mental health care? ____%
4. On the average, how many other persons worked directly with you in the delivery of mental health services at the disaster center (or the hospital)? #____
5. What individual or group was responsible for directly supervising your work? Give name or position. _____
6. How much supervision for mental health workers was there at the center where you worked? Too much ____ About the right amount ____ Not enough ____
7. How often did you communicate or have contact with others working in mental health services at the various disaster centers (and the hospital)? Very often ____ Often ____ Sometimes ____ There was almost no communication or contact with the others ____
8. How clearly specified were the tasks you were to perform at the centers or the hospital? Very clearly ____ Clearly ____ Not clearly ____ Not at all clearly ____
9. Were the actual tasks you performed at the centers (or the hospital) different from what you expected they would be when you first volunteered? Yes ____ No ____ (IF NO, PLEASE EXPLAIN) _____
10. If you are employed, did other members of your organization volunteer for this program at the disaster centers and Greene Memorial Hospital? Yes ____ (IF SO, HOW MANY) ____ No ____
11. Did your employer cooperate with your volunteer activities in any of the following ways? Gave me time off without pay ____ Gave me time off with pay ____ Helped arrange transportation ____ Helped to train and organize volunteers ____ Other (Specify) _____

12. About how many days in all did you participate in these efforts? _____
13. Why did you stop participating in these activities? _____
14. Overall, how effective do you think these efforts were in alleviating mental health problems? Very effective ____ Effective ____ Mixed feelings ____ Ineffective ____ Very ineffective ____
15. Looking back, what were the major problems associated with this program?

Section B. Did you participate as a volunteer with the Disaster Follow-Up Group or Interfaith Advocates? Yes ____ PLEASE CIRCLE WHICH GROUP No ____
(IF NO, SKIP TO SECTION C)

1. Where did you first get the idea to volunteer for this program? Mental Health Association ____ The mass media ____ Friends or family ____ Employer ____ Other people at work ____ Church ____ Own idea ____ Ohio Dept. of Mental Health ____
2. Were you paid for your efforts? Yes ____ No ____
3. About what percentage of the total volunteer work you did was devoted to the following types of activities? Counseling ____% Agency referrals ____% Providing material and physical assistance ____% Listening and talking to people about problems ____% Other (Specify) _____
4. How much supervision for the volunteers was there in this program? Too much ____ About the right amount ____ Not enough ____
5. How clearly specified were the tasks and activities you were to perform in the program? Very clearly ____ Clearly ____ Not clearly ____ Not at all clearly ____
6. Of the following types of activities and tasks, which were the most difficult to perform? Counseling ____ Agency referrals ____ Providing material and physical assistance ____ Listening and talking to people about problems ____ Other ____
7. How adequate do you feel the training program for volunteers was in preparing you for the work? Very adequate ____ Adequate ____ Mixed feelings ____ Inadequate ____ Very inadequate ____
8. About how often did you communicate or have contact with others working in the volunteer program? Very often ____ Fairly often ____ Sometimes ____ There was almost no communication or contact with the others ____
9. About how many of the people in the program did you know before becoming a volunteer? Almost no one ____ a few ____ About half ____ A majority ____ Almost everyone ____

10. During which of the following months did you participate in the volunteer activities? April ____ May ____ June ____ July ____ August ____ September ____ October ____ November ____
11. Are you still participating in these activities? Yes ____ No ____ (IF NO, WHY DID YOU STOP?)
12. Overall, how effective do you think the volunteer program you participated in was in alleviating emotional and mental health problems?
Very effective ____ Effective ____ Mixed feelings ____ Ineffective ____
Very ineffective ____
13. Looking back, what were some of the major problems associated with the program?

Section C. Other than those activities mentioned above, did you participate in any other activities aimed at alleviating emotional and/or mental health problems associated with the Xenia tornado? Yes ____ No ____ (IF NO, SKIP TO SECTION D - BELOW) IF YES, briefly describe what the activities were, who you worked with, any problems encountered, how long you worked, and how effective you think they were.

Section D. We would like to get a better picture of the specific types of emotional and mental health activities you engaged in, as well as your impressions of how disasters affect mental and emotional health.

1. In general, to what extent were these activities you described above similar to what you are accustomed to doing on an everyday basis? Very similar ____ Similar ____ Dissimilar ____ Very dissimilar ____ (IF THEY WERE DISSIMILAR, HOW SO?) _____
2. When you were engaged in activities aimed at alleviating mental health or emotional problems after the disaster, which ONE of the following criteria did you most often use to determine whether someone had an emotional or mental health problem?
- _____ Psychiatric diagnosis or other diagnostic examinations by trained mental health workers
 - _____ A person's social maladjustment, or inability to adapt positively to his social situation as perceived by others, such as friends, relatives, parents, etc.
 - _____ A person's own feeling of unhappiness, inadequacy, or lack of well-being
 - _____ A person's failure to adapt to social and community standards of behavior as defined by institutions, such as the school, courts, employers, etc.
 - _____ Other (Specify)

3. If a person displayed some sort of emotional or mental health problem, which one of the following things did you usually do? (Check the one which you most commonly did.)
 - ☐ Make a referral to a mental health agency
 - ☐ Provide immediate counseling to the person
 - ☐ Listened to the person's problems to help him find immediate solutions
 - ☐ Attempted to establish a personal follow-up contact with the person
 - ☐ Other (Specify) _____
4. As a result of your experience in Xenia, how would you say disasters affect the number of persons in a community who have emotional and mental health problems? Increase greatly ☐ Increase slightly ☐ Remains the same ☐ Decrease slightly ☐ Decrease greatly ☐
5. About what percentage of the people in Xenia do you estimate have some kind of emotional or mental health problem as a result of the tornado _____ %
6. Based on your experience, do the types of emotional and mental health problems resulting from a disaster require different types of treatment strategies than most other types of mental health problems? Yes ☐ No ☐ If Yes, what types of services? _____ Why? _____
7. When do you think that emotional and mental health services are most needed after a disaster? Immediately after ☐ During the first few weeks ☐ A few months afterwards ☐ About a year later ☐ Other (Specify) _____

Turning away from the disaster for a moment.....

8. The terms mental health and mental illness are often used to refer to a variety of emotional and psychological problems. Please indicate the items below which best represent what poor mental health (or mental illness) means to you. Rank the items below from 1 to 5, using 1 to represent the most important criterion.
 - ☐ A person's expression of unhappiness, inadequacy, or lack of well-being
 - ☐ A person's social maladjustment, or failure to live up to social and community standards
 - ☐ A person's failure to live up to his own potentialities
 - ☐ The presence of irrational and antisocial behaviors which are symptomatic of psychological disorders
 - ☐ General problems in living
9. Although more than one of the following criteria may be important in assessing a person's mental health, please check the ONE that you feel is the most important in determining whether someone has a psychological or emotional problem.
 - ☐ Psychiatric diagnosis or other diagnostic examinations by trained mental health workers

- _____ A person's social maladjustment, or inability to adapt positively to his social situation as perceived by others, such as friends, relatives, parents, etc.
- _____ A person's own feeling of unhappiness, inadequacy or lack of well-being
- _____ A person's failure to adapt to social and community standards of behavior as defined by institutions, such as the school, courts, employers, etc.
- _____ Other (Specify) _____
10. A variety of factors are thought to cause different kinds of emotional and psychological problems. Which of the following best represents your opinion of the source of most mental health problems. Rank each of the factors you select from 1 to 5 depending upon their importance in contributing to such problems, with 1 being the most important.
- _____ Heredity
- _____ Poor physical health
- _____ Childhood or pre-adult experiences
- _____ Stresses or tensions in the current social environment
- _____ Personal crises in one's adult life
11. Of the following theoretical and/or therapeutic approaches to mental health care, select those orientations with which you associate yourself. Psychoanalytic _____ Behaviorism _____ Gestalt _____ Transactional analysis _____ Reality therapy _____ Structured group interaction (sensitivity, encounter, etc.) _____ Psychodrama _____ Group and family therapy _____ Other (Specify) _____
-

Section E. We conclude with some general questions about you and your background.

1. What is your age? _____ 2. What is your sex? Female _____ Male _____
3. Immediately prior to the tornado, what was your occupation? Please be specific (e.g., social worker in a welfare department, college student majoring in clinical psychology, housewife, etc.) _____
4. How useful was your current occupation in helping you to perform the mental health activities you engaged in after the tornado? Very useful _____ Useful _____ Mixed feelings _____ Useless _____ Very useless _____
5. What is the last year of schooling you completed? _____ Please specify the highest degree you have obtained in school (e.g., M.A. in clinical psychology, M.S.W., B.D., B.A. in psychology, etc.) _____
6. Briefly, describe any other types of training you have had, if any, in the mental health field.
7. If you had no specific and formal mental health training prior to your disaster work, have you ever done any of the following? Ministerial counseling _____ Participated in group therapy or encounter or sensitivity groups _____ Provided any kind of counseling _____ Received counseling or mental health care yourself _____

8. In the last five years, have you ever volunteered your services to any of the following types of associations? Social ____ Fraternal ____ Religious ____ Civic ____ Professional ____ Cultural ____
9. Was your dwelling damaged in any way by the tornado? No damage ____ Minor damage ____ Major damage ____ Total damage ____
10. Have you ever experienced any of the following:
a) Direct wartime experience. WHEN ____ WHERE ____
b) Natural disaster. WHEN ____ WHERE ____
c) Personal catastrophe or crisis. WHEN ____
11. In looking back over your experiences, do you now see anything that you might have done differently?
12. Do you have any recommendations or advice for other communities with regard to disaster planning insofar as mental health services are concerned?

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